



CRIMINAL JUSTICE POLICY COMMISSION

P.O. Box 30036
LANSING, MICHIGAN 48909-7536
PHONE: (517) 373-0212
FAX: (517) 373-7668

Members:

BRUCE CASWELL (*Chairperson*)
Representing the General Public

HONORABLE PATRICK COLBECK
Representing the Michigan Senate

HONORABLE VANESSA GUERRA
Representing the Michigan House of Representatives

D.J. HILSON
Representing the Prosecuting Attorneys

KYLE D. KAMINSKI
Representing the Michigan Department of Corrections

SHERYL M. KUBIAK
*Representing the Michigan Coalition to End Domestic
and Sexual Violence*

BARBARA LEVINE
*Representing Advocates of Alternatives to
Incarceration*

SARAH LIGHTNER
Representing the Michigan Association of Counties

LAURA MOODY
Representing the Attorney General

HONORABLE JIM RUNESTAD
Representing the Michigan House of Representatives

SHERIFF LAWRENCE STELMA
Representing the Michigan Sheriff's Association

JENNIFER STRANGE
*Representing the Mental or Behavioral Health Care
Field*

HONORABLE PAUL STUTESMAN
Representing the Michigan Judges Association

ANDREW G. VERHEEK
*Representing the Michigan Association of Community
Corrections Advisory Board*

HONORABLE RAYMOND P. VOET
*Representing the Michigan District Judges
Association*

December 5, 2018

Members of the Michigan Legislature:

The attached report is provided pursuant to Sec. 33a of Public Act 465 of 2014. The Criminal Justice Policy Commission was tasked with conducting ongoing research regarding the effectiveness of the sentencing guidelines. This report examines the ability of the sentencing guidelines to reduce sentencing disparities based on factors other than offense characteristics and offender characteristics and ensure that offenders with similar offense and offender characteristics receive substantially similar sentences. The Commission examined 4,823 class D felony convictions in which the guidelines support either a prison or local sentence. Preliminary findings suggest disparities exist based on multiple factors. While it would be premature to make policy recommendations based on these findings, this report represents the first step in a systematic review of the sentencing guidelines.

The next steps in the Commission's review of the sentencing guidelines are to evaluate disparities in additional felony classes and outcomes beyond the sentencing decision. As the Commission conducts subsequent research, we will continue to submit reports with our findings to the Legislature. Upon completing this review process, the Commission will provide the Legislature with recommendations to address any sentencing disparities found in a comprehensive manner across felony classes.

As Chair of this Commission, I hope you will find the latest report useful as you and your legislative colleagues look for ways to bring meaningful change to the criminal justice system here in Michigan. Thank you for your consideration of our report and findings. Please do not hesitate to contact me should you have any questions.

Respectfully,

Bruce E. Caswell
Chair
Criminal Justice Policy Commission

Attachment

CRIMINAL
JUSTICE
POLICY
COMMISSION

Evaluation of Straddle Cell Sentencing in Michigan

Class D Felonies



Final Report
December 5, 2018

Table of Contents

Executive Summary.....	1
I. Introduction.....	4
II. Sentencing Guidelines Overview.....	5
III. Data	7
IV. Methodology	9
V. Results	12
A. Summary	12
B. Circuit Courts.....	14
C. Interpreting Statistically Significant Results	18
D. Crime Group.....	19
E. Conviction Method: Found Guilty vs. Pled Guilty.....	20
F. Attorney Status: Retained vs. Appointed	20
G. Gender	21
H. Employment Status	21
I. Alcohol Abuse.....	21
J. Age 21	
K. Race and Ethnicity.....	22
VI. Conclusion	22
A. Summary	22
B. Limitations and Additional Research Considerations	23
VII. Appendix – Additional Tables and Maps	24
Table A-1: Three Most Common Class D Felonies by Crime Group.....	25
Table A-2: Logit Regression Coefficients and Odds Ratios.....	26
Table A-3: Logit Regression Output with Odds Ratios Reported	29
Table A-4: Problem-Solving Courts & Community Corrections Programs by Circuit Court	31
Figure A-1: Counties of Michigan	32
Figure A-2: Circuit Courts of Michigan.....	33
Figure A-3: Probability of a Prison Sentence Comparing Circuit Courts with Weighted State Average...	34

Executive Summary

Utilizing the past six years of felony sentencing data from across the state, the Criminal Justice Policy Commission (CJPC) has begun a systematic evaluation of straddle cell sentencing in Michigan. In 1998, the Michigan Legislature adopted sentencing guidelines to reduce disparities in sentencing for people convicted of felonies. In many cases, the guidelines provide judges with recommendations for an intermediate sentence (i.e., jail and/or probation) or a presumptive prison sentence. In other instances, the recommendations permit judges complete discretion to impose either an intermediate sanction or a prison term if the offense details and offender’s prior criminal record place them within a “straddle cell” for sentencing. Focusing on straddle cell sentencing decisions, this report addresses the following questions for offenders convicted of Class D felonies:

Research Question 1: To what extent are prison sentences, relative to intermediate sanctions, imposed on offenders convicted of a Class D felony and scoring within a straddle cell?

Research Question 2: For offenders with similar offense and offender characteristics, are there disparities in the rate of prison sentences? If so, what factors or characteristics are contributing to such disparities?

We identified 4,823 cases, using Michigan Department of Corrections’ data, of individuals sentenced between 2012-2017 and scoring within a straddle cell for Class D offenses, excluding habitual offenders and those with a special status¹ during the offense. Of these cases, 1,464 (30.29%) received prison sentences and 2,649 (54.92%) received a jail sentence or a combination of jail and probation.

A logistic regression was used to evaluate whether there are disparities in the rate at which offenders are sentenced to prison as opposed to intermediate sanctions. Using this regression technique, we can consider multiple factors at the same time and estimate how each factor is associated with the probability that an offender receives a prison sentence, allowing for more suitable “apple to apple” comparisons. When reviewing results from this analysis, it is important to keep the following in mind. These results describe correlations between certain factors and the probability that an offender is sentenced to prison as opposed to jail and/or probation. These results should not be interpreted as causal (i.e., going to trial will make you more likely to receive a prison sentence) because there may be additional factors outside our model that provide a plausible explanation, such as plea bargains, for why a significant difference exists.

Ultimately, our analysis found that eight factors had statistically significant associations with the probability of being sentenced to prison for offenders convicted of a Class D felony and located in a straddle cell. In the presence of significant differences in sentencing outcomes for these offenders, we conclude that there are sentencing disparities across these factors:

- | | |
|--|---|
| • Circuit Court where sentence is imposed | • Attorney Status (Retained vs. Appointed) |
| • Type of Crime (Crime Group²) | • Employment Status |
| • Conviction Method (Found Guilty at Trial vs. Pleading Guilty) | • Age |
| • Gender | • Offender’s History of Alcohol Abuse |

¹ Special statuses include the following: HYTA, Probation, District Court Probation, Delay of Sentence, Parole, Jail, State Prisoner, Bond, Juvenile Court Supervision, Federal Probation, and Federal Parole.

² Felony offenses are classified into six groups: 1) Crimes against a person, 2) Crimes against property, 3) Crimes involving a controlled substance, 4) Crimes against public order, 5) Crimes against public safety, and 6) Crimes against public trust. The three most common offenses for each crime group are listed in Table A-1 of the appendix.

Further, we conclude that sentencing disparities were not found for offenders across these factors: Offense Group (Assaultive vs. Non-Assaultive), Race, Ethnicity, High School Diploma/GED, Drug Abuse, and History of Mental Health Treatment.

Table E1 summarizes the results from our regression analysis, indicating which factors were statistically significant and the direction of the relationship. For example, the row for attorney status indicates that there was a statistically significant difference between those who retained their attorney and those who were appointed counsel. The third column indicates that offenders who retained an attorney were less likely on average to receive a prison sentence when compared to similar offenders with an appointed attorney. This difference considers or “controls for” the offense’s severity, the offender’s prior criminal record, the type of crime, whether the offense was assaultive in nature, the circuit court, and if there was a trial, as well as multiple demographic factors (e.g., gender, race/ethnicity, age, etc.).

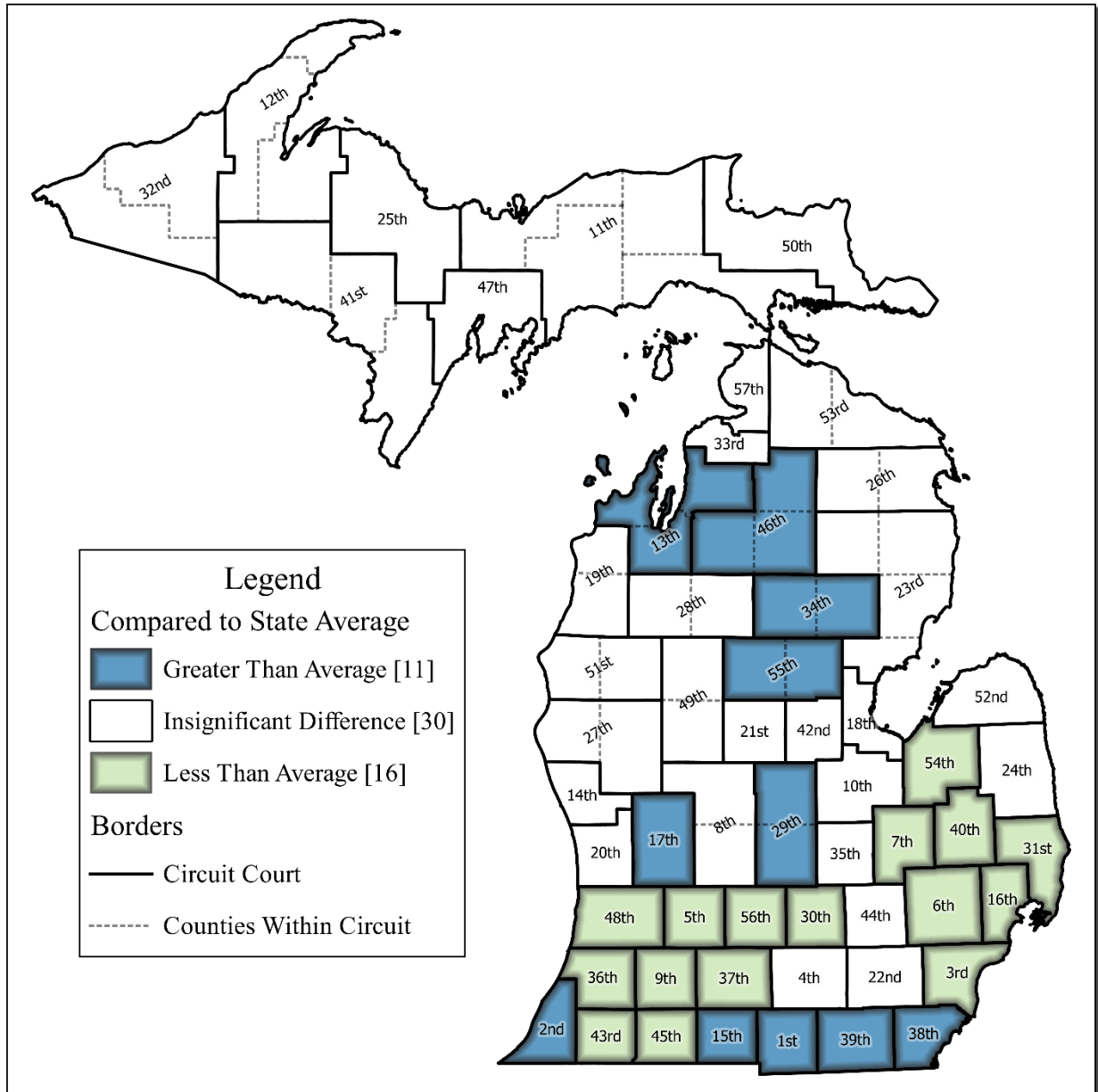
Table E1: Summary of Regression Results³

Variable	Statistically Significant	Average Relationship to Prison Sentence
Sentence Guideline Crime Group	Yes	Dependent on Comparison Group
<i>Public Trust vs. Person</i>	Yes	Convictions for "Public Trust" crimes were <i>more</i> likely to be sentenced to prison than "Crimes Against a Person."
<i>Cont. Substance vs. Person</i>	Yes	Convictions for "Controlled Substance" crimes were <i>less</i> likely to be sentenced to prison than "Crimes Against a Person."
<i>Public Order vs. Person</i>	Yes	Convictions for "Public Order" crimes were <i>less</i> likely to be sentenced to prison than "Crimes Against a Person."
<i>Property vs. Person</i>	No	Convictions for "Property" crimes did not differ significantly from "Crimes Against a Person."
<i>Public Safety vs. Person</i>	No	Convictions for "Public Safety" crimes did not differ significantly from "Crimes Against a Person."
Conviction Method		
Found Guilty vs. Pled Guilty	Yes	Those found guilty at trial were <i>more</i> likely to receive a prison sentence than those who pled guilty.
Gender (Female vs. Male)	Yes	Female offenders were <i>less</i> likely to receive a prison sentence than male offenders.
Attorney Status (Retained vs. Appointed)	Yes	Those who retained their attorney were <i>less</i> likely to receive a prison sentence than offenders with appointed attorneys.
Employed	Yes	Employed offenders were <i>less</i> likely to receive a prison sentence than unemployed offenders.
Alcohol Abuse	Yes	Offenders with a self-report history of alcohol abuse were <i>more</i> likely to receive a prison sentence.
Age	Yes	Up to age 37, the older the offender is, the <i>more</i> likely he or she is to receive a prison sentence. After the peak at age 37, older offenders are <i>less</i> likely to be sentenced to prison.
Circuit Court	Yes	Compared to the statewide average: <ul style="list-style-type: none"> • 11 Circuits were <i>more</i> likely • 16 Circuits were <i>less</i> likely • 30 Circuits didn't differ significantly
Offense Group (Assaultive vs. Non-Assaultive)	No	No statistically significant relationship to the "In/Out" of prison sentencing decision.
Race	No	
Ethnicity	No	
High School Diploma/GED	No	
Drug Abuse	No	
Mental Health Treatment	No	

³ The sample for these results included individuals sentenced between 2012-2017 and scored within a straddle cell for Class D offenses, excluding habitual offenders and those with a special status during the offense (HYTA, Probation, District Court Probation, Delay of Sentence, Parole, Jail, State Prisoner, Bond, Juvenile Court Supervision, Federal Probation, Federal Parole).

The circuit court results included in Table E1 identified whether courts sentenced offenders to prison significantly more often, less often, or approximately the same as the state average. Figure E1 below maps the 11 above-average circuits in blue, 16 below-average circuits in green, and 30 circuits that did not differ significantly for the state average in white.

**Figure E1: Probability of Receiving a Prison Sentence⁴
Comparing Circuit Courts to the State Average**



⁴ Figure E1 shows how each circuit court compares to the statewide average for imposing prison sentences on offenders convicted of Class D felonies and scoring within a straddle cell. Habitual offenders and those with a special status during the offense (e.g., HYTA, Probation, Parole) are not included in these comparisons.

I. Introduction

Among the responsibilities of the CJPC specified in PA 465 of 2014 is to conduct ongoing research regarding the effectiveness of the sentencing guidelines. While conducting this research, the commission is tasked with making recommendations to the legislature that accomplish a variety of factors, including reducing sentencing disparities based on factors other than offense characteristics and offender characteristics and ensuring that offenders with similar offense and offender characteristics receive substantially similar sentences. Given that charge, the commission has prepared this report to address the following research questions:

Research Question 1: To what extent are prison sentences, relative to intermediate sanctions, imposed on those who score in straddle cells on the **D grid**?

Research Question 2: For offenders with similar offense and offender characteristics, are there disparities in the rate of prison sentences? If so, what factors or characteristics are contributing to such disparities?

Before a determination can be made regarding whether disparities exist in sentencing, a measure of the sentencing outcome must be clearly defined. To this end, the sentencing outcome of interest for this report is whether an individual receives a prison sentence or an intermediate sanction (e.g., probation, jail, or combination of probation and jail). To best evaluate trends and disparities in the “in-or-out” of prison decision, this study sample has been narrowed to offenders for whom their guideline score places them within a straddle cell. This decision was made because the recommended ranges within straddle cells include both intermediate sanctions and prison sentences as appropriate. Further refining our sample, this analysis focuses solely on offender scoring within straddle cells for Class D offenses, excluding habitual offenders and those with a special status during the offense (HYTA, Probation, District Court Probation, Delay of Sentence, Parole, Jail, State Prisoner, Bond, Juvenile Court Supervision, Federal Probation, Federal Parole).

A couple important distinctions need to be made clear regarding the underlying data and analysis before proceeding. The first is that, our data relies on the information gathered from pre-sentence investigation (PSI) reports, which are only prepared after an individual is convicted of a felony offense. Therefore, only cases resulting in a conviction, either by plea or trial, are included. Secondly, the focus of the research in this report is on sentencing outcomes, specifically whether individuals receive a prison sentence or an intermediate sanction (e.g., probation, jail, or combination of probation and jail). As such, the relationships explored in this report only pertain to the “in-or-out” of prison sentencing decision and do not reflect any possible correlation with other elements of the criminal justice system leading to and resulting in conviction, such as arrest and charging decisions. Furthermore, the length of the sentence imposed is not an outcome explicitly studied in this report.

The remainder of this report proceeds as follows. Section II outlines the basic structure of sentencing guidelines in Michigan. In section III, we describe our data and provide summary statistics to address the first research question. The empirical approach used to evaluate the straddle cell sentencing trends is described in section IV. Results from our analysis are reported and discussed in Section V. Finally, section VI summarizes this report, discusses limitations of the analysis, and details the benefit of continued research into this area.

II. Sentencing Guidelines Overview

Michigan's sentencing guidelines provide guidance in determining the minimum sentence for an individual convicted of a felony offense. The guidelines and suggested ranges are considered advisory only. However, the scoring of the guidelines is still required for sentencing. Broadly speaking, there are four factors that drive the determination of the applicable guideline range: 1) the offense's crime group, 2) the offense's crime class, 3) the severity of the offense, and 4) the offender's prior criminal record.

The crime group and crime class for each felony are specified within the statutory language defining the offense. There are six crime groups⁵: 1) Crimes against a person, 2) Crimes against property, 3) Crimes involving a controlled substance, 4) Crimes against public order, 5) Crimes against public safety, and 6) Crimes against public trust; and nine crime classes: A, B, C, D, E, F, G, H, and second-degree murder (M2).

The sentencing guidelines are presented in a series of nine grids, one for each crime class (M2, A-H). As a reference, the grid for class D felonies is included on the next page. The rows for each grid denote the offense variable (OV) score, which considers several factors of the offense committed to determine its severity. The grid's columns indicate the prior record variable (PRV) score, which represents the extent of the offender's prior criminal involvement. The intersection of the OV and PRV levels are referred to as cells. Within the guidelines, there are three cell classifications: prison, straddle, and intermediate. The definitions for each cell type, as presented in the sentencing guidelines manual (SGM),⁶ are as follows:

Prison cells are those cells for which the minimum sentence recommended exceeds one year of imprisonment. Prison cells are those cells that are unmarked in the sentencing grids, i.e., not shaded (as are straddle cells) and not asterisked (as are intermediate sanction cells). When an offender's OV and PRV levels place him or her in a prison cell, a minimum sentence within the range indicated in the cell is an appropriate sentence.

Straddle cells are those cells in which the lower limit of the recommended range is one year or less and the upper limit of the recommended range is more than 18 months. MCL 769.34(4)(c). Straddle cells appear shaded in the sentencing grids. When an offender's OV and PRV levels place him or her in a straddle cell, a minimum sentence within the range indicated in the cell OR an intermediate sanction (which may include a jail term of not more than 12 months) is an appropriate sentence.

Intermediate sanction cells are those cells in which the upper limit recommended by the guidelines is 18 months or less. MCL 769.34(4)(a). These cells are marked with an asterisk in the sentencing grids. When an offender's OV and PRV levels place him or her in an intermediate sanction cell, an intermediate sanction (which may include a jail term of 0-12 months or the cell maximum, whichever is less) is an appropriate sentence.

⁵ Table A-1 in the appendix lists the 3 most common felonies within our sample for each crime group.

⁶ This section presents a brief overview of the Michigan Sentencing Guidelines Manual to provide basic background information regarding the guidelines structure. The full SGM is prepared by the Michigan Judicial Institute and contains an in-depth explanation of the guidelines. The SGM can be accessed online at: <https://mjieducation.mi.gov/benchbooks/sgm>.

Figure 1: Sentencing Grid for Class D Offenses --- MCL 777.65

Includes Ranges Calculated for Habitual Offenders (MCL 777.21 (3)(a)-(c))

OV Level	PRV Level												Offender Status
	A 0 Points		B 1-9 Points		C 10-24 Points		D 25-49 Points		E 50-74 Points		F 75+ Points		
I 0-9 Points	0	6*	0	9*	0	11*	0	17*	5	23	10	23	
		7*		11*		13*		21		28		28	HO2
		9*		13*		16*		25		34		34	HO3
		12*		18*		22		34		46		46	HO4†
II 10-24 Points	0	9*	0	11*	0	17*	5	23	10	23	19	38	
		11*		13*		21		28		28		47	HO2
		13*		16*		25		34		34		57	HO3
		18*		22		34		46		46		76	HO4†
III 25-34 Points	0	11*	0	17*	5	23	10	23	19	38	29	57	
		13*		21		28		28		47		71	HO2
		16*		25		34		34		57		85	HO3
		22		34		46		46		76		114	HO4†
IV 35-49 Points	0	17*	5	23	10	23	19	38	29	57	34	67	
		21		28		28		47		71		83	HO2
		25		34		34		57		85		100	HO3
		34		46		46		76		114		134	HO4†
V 50-74 Points	5	23	10	23	19	38	29	57	34	67	38	76	
		28		28		47		71		83		95	HO2
		34		34		57		85		100		114	HO3
		46		46		76		114		134		152	HO4†
VI 75+ Points	10	23	19	38	29	57	34	67	38	76	43	76	
		28		47		71		83		95		95	HO2
		34		57		85		100		114		114	HO3
		46		76		114		134		152		152	HO4†

† Certain fourth habitual offenders may be subject to a mandatory minimum sentence of 25 years' imprisonment. See MCL 769.12(1)(a).

Intermediate sanction cells are marked by asterisks, straddle cells are shaded, and prison cells are unmarked.

The statutory percentage increases for habitual offenders are rounded down to the nearest whole month. The cell range may be less than the maximum possible minimum sentence by a fraction of a month.

For the D grid, there are six offense variable levels (I-VI) and six prior record levels (A-F), totaling 36 cells. Intermediate cells are marked by asterisks, straddle cells are shaded grey, and prison cells are unmarked. Within each, the recommended minimum sentence length is expressed as a range of months. The number on the left side of the cell denotes the lower limit of this range. The four values on the right of each cell represent the upper limit of the minimum sentencing range for that cell, depending on whether an offender is being charged as a habitual offender. The number in the top right corner of each cell indicates the upper limit for a non-habitual offender. A series of three additional upper limits are included in each cell for sentencing habitual offenders (HO2, HO3, HO4). Because our analysis excludes habitual offenders, these additional upper limits shown are not particularly relevant for our purposes. As an example, for class D felonies the recommended range for non-habitual offenders scoring in cell C-III (i.e., having a prior record level C and offense variable level III) would be 5-23 months.

III. Data

The data utilized in this analysis was provided by the Michigan Department of Corrections (MDOC) and contains all felony convictions sentenced between Jan. 1st, 2012 through Dec. 31st, 2017. The datasets provided detail the specifics of the offender and offenses used to score his or her prior record and offense variable scores during the pre-sentence investigation (PSI) reports. In addition to these variables, demographic characteristics of the offender, such as gender, age, race, and education level are also included. Of the 9 sentencing grids within the guidelines, only 6 contain straddle cells: B, C, D, E, F, and G. For each of the nine sentencing grids, the statutory maximum associated with that crime class, the number of straddle cells within that grid, and the number of straddle cell observations in our dataset is included in Table 1 below.

Table 1: Straddle Cells Across Sentencing Guideline Grids

Crime Class	Statutory Maximum Penalty ⁷	Straddle Cells in Grid	Number of Obs.	Percent of Obs.
M2	Life	0	NA	NA
A	Life	0	NA	NA
B	20 Years	2	666	2.83%
C	15 Years	5	1,732	7.36%
D	10 years	11	4,823	20.51%
E	5 years	14	11,189	47.57%
F	4 years	9	4,074	17.32%
G	2 years	3	1,037	4.41%
H	Jail	0	NA	NA
Total		44	23,521	100%

In total, there are 4,823 observations for individuals sentenced between 2012-2017 and scoring within a straddle cell for Class D offenses, excluding habitual offenders and those with a special status during the offense. Of these cases, 1,461 (30.29%) received prison sentences and 2,649 (54.92%) received a jail sentence or a combination of jail and probation.

Table 2: Straddle Cell Sentencing Outcomes for Class D Felony Convictions

Sentence	Obs.	Percent
Prison	1,461	30.29%
Jail	704	14.60%
Jail & Probation	1,945	40.33%
Probation	696	14.43%
Other ⁸	17	0.35%
Total	4,823	

⁷ According to the SGM, "In most cases, using the statutory maximum to divide the guidelines offenses into discrete crime classes resulted in categories of offenses that shared the same statutory maximum penalty. There are offenses that do not adhere to the standard."

⁸ Other Sentences include: Community Service Only, FIA (DSS), and Fines/Costs/Restitution Only.

Below we present the sentencing outcomes for varying offenders' OV levels and PRV levels. Table 3 shows the number of observations within each straddle cell on the D-grid, followed by number and percentage of those observations that received a prison sentence. For example, in cell C-III, there are 394 observations. Of those 394 cases, 98 or 24.87% received a prison sentence.

Table 3: Total Observations and Prison Sentences by Offense Variable and Prior Record Levels

OV Level	PRV Level					
	A 0 Points	B 1-9 Points	C 10-24 Points	D 25-49 Points	E 50-74 Points	F 75+ Points
I 0-9 Points	-	-	-	-	968 Prison: 237 24.48%	759 Prison: 258 33.99%
II 10-24 Points	-	-	-	997 Prison: 253 25.38%	454 Prison: 180 39.65%	-
III 25-34 Points	-	-	394 Prison: 98 24.87%	254 Prison: 105 41.34%	-	-
IV 35-49 Points	-	154 Prison: 42 27.27%	368 Prison: 122 33.15%	-	-	-
V 50-74 Points	240 Prison: 64 26.67%	106 Prison: 36 33.96%	-	-	-	-
VI 75+ Points	129 Prison: 66 51.16%	-	-	-	-	-

The rate of prison sentences reported in Table 3 range from a low of 24.48% of cases (E-I) to a high of 51.16% (A-VI). It is important to note that differences across these straddle cells do not imply sentencing disparities, but rather demonstrate an intended function of the guidelines. Consider offenders in adjacent cells CIII (24.87%) and CIV (33.15%). These individuals have the same prior record level in both cells, while individuals in CIV were convicted of a higher severity offense. Given this, it is not surprising that individuals in cell CIV are more often sentenced to prison than cell CIII. The same can be applied when comparing CIII (24.87%) to DIII (41.34%). In this scenario, offenders have committed similarly severe offenses, but those in cell DIII have more extensive prior criminal records. The data in Table 3 shows that this pattern of difference across adjacent cells is consistent for the D-grid.

With an understanding of how often prison sentences and intermediate sanctions are imposed for each straddle cell in the D-grid, the next step in the evaluation is to look within cells to see if additional factors may be related to the sentencing outcome. In the next section, the factors considered in our model are discussed in detail, along with any significant inferences or additions we made regarding the data.

IV. Methodology

A variety of sentencing factors and demographic variables were included in our analysis to account for the specifics of each sentencing decision. These control variables include: the sentencing cell (i.e., PRL and OVL), whether the offense was assaultive in nature, whether the conviction was the result of a trial, and the circuit court, as well as multiple demographic factors: gender, race/ethnicity age, graduated HS/ GED, employment status, drug and alcohol abuse history, and mental health treatment. Due to limitations of the dataset, some demographic variables of interest were unavailable. Most notably missing was a field indicating whether the offender identified as Hispanic.

Historically, the MDOC has used the six categories below to identify an offender's race:

- American Indian or Alaskan Native
- Asian
- Black or African American
- Native Hawaiian or Other Pacific Island
- White
- Unknown

While an additional variable for ethnicity was available, in practice this field is seldom populated. To address this potential shortcoming in the data, we took the following steps to attempt to infer whether an offender was likely to identify as Hispanic.

Following the decennial census, the U.S. Census Bureau creates a list of the most common surnames reported⁹. In addition to the number of times each name was reported, the list includes basic demographic information, such as the percentage of individuals who self-identified as Hispanic or Latino. For example, the most common surname, SMITH, was reported 2,442,977 times in the 2010 census with 2.4% of those individuals identifying as Hispanic or Latino. Merging the MDOC and census data, we could see the percentage of people with the offender's last name that self-identified as Latino or Hispanic. Using 50% as the threshold, we then coded each offender as Hispanic if the majority of people with the same surname identified as Hispanic or Latino.

Limitations from this approach included being unable to match some rare (i.e., reported less than 100 times in the 2010 census) or hyphenated surnames with the census data, as well as being unable to account for the possibility of changes in surnames as a result of marriage. Of the 245,389 offenders in the full dataset¹⁰, 226,494 (92.3%) were matched to the census data, while the remaining 18,895 (7.7%) were unable to be matched. Ideally, the ethnicity of the offender would be collected within the original dataset of demographic characteristics. However, in the absence of this, using self-identified census data to infer Hispanic ethnicity provides a practical way of considering this factor.

Including the created measure of Hispanic ethnicity, there are nine offender-specific characteristics explored in our model: age, gender, race, ethnicity, high school diploma/GED, employment status, history of drug abuse, history of alcohol abuse, and prior mental health treatment. Data collected by the MDOC regarding an offender's history with drug and alcohol abuse, as well as prior mental health treatment,

⁹ The dataset available at https://www.census.gov/topics/population/genealogy/data/2010_surnames.html contains a list of all surnames reported 100 or more times for the 2010 census. The list includes 162,253 surnames which represent 265,667,228 people. Additionally, one row indicating "All Other Names" accounts for 29,312,001 individuals.

¹⁰ Matching the census information with the MDOC data was performed before the sample was narrowed to the final sample of non-habitual or special status offenders scoring in a straddle cell for class D offenses. The number of offenders and matching percentage reported here reflect all offenders in our dataset across all grids, cell types, habitual status, and other special statuses.

relies on self-reported information and offenders may have differing conceptions of what constitutes substance abuse or mental health treatment. In addition to the offender characteristics, seven case-specific factors are included in our model: sentencing cell (PRV, OV), crime group, trial or plea conviction, year of the sentence, if offense was assaultive in nature, whether attorney was retained or appointed, and the circuit court.

Summary statistics for the offender characteristics and case factors are provided in Table 4 for the 4,823 observations included in this study’s sample. Again, this analysis only includes individuals sentenced between 2012-2017 and scoring within a straddle cell for Class D offenses, excluding habitual offenders and those with a special status during the offense (HYTA, Probation, District Court Probation, Delay of Sentence, Parole, Jail, State Prisoner, Bond, Juvenile Court Supervision, Federal Probation, Federal Parole).

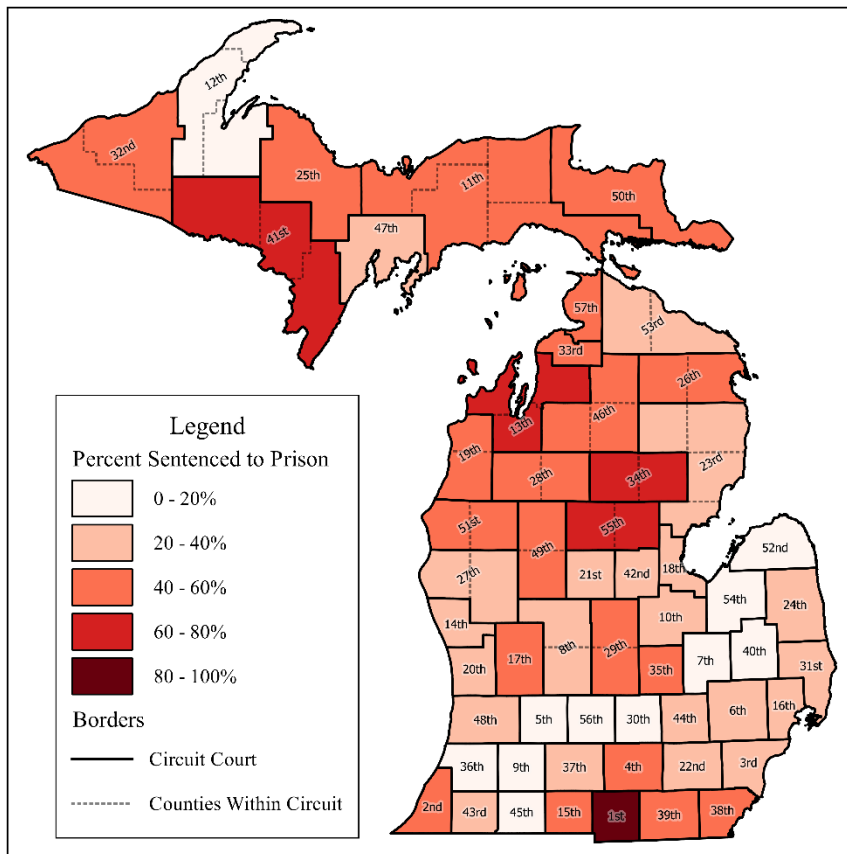
Table 4: Descriptive Statistics for Case-Specific and Offender Demographic Variables

Variable	Obs.	Percent	Variable	Obs.	Percent
Cell (PRV, OVL)	4,823		Offense Group 1 & 2	4,823	
A, VI	129	2.67%	Group 1 (Assaultive)	1,960	40.64%
A, V	240	4.98%	Group 2 (Non-Assaultive)	2,863	59.36%
B, V	106	2.20%	Attorney Status	4,823	
B, IV	154	3.19%	Appointed	3,711	76.94%
C, IV	386	8.00%	Retained	1,112	23.06%
C, III	394	8.17%	Gender	4,823	
D, III	254	5.27%	Female	504	10.45%
D, II	997	20.67%	Male	4,319	89.55%
E, II	454	9.41%	Race	4,823	
E, I	968	20.07%	American Indian or Alaskan Native	39	0.81%
F, I	759	15.74%	Black or African American	2,362	48.97%
Sentence Guideline			White	2,422	50.22%
Crime Group	4,823		Ethnicity	4,823	
Person	1,359	28.18%	Hispanic	161	3.34%
Property	967	20.05%	Non-Hispanic	4,662	96.66%
Controlled Substance	1,948	40.39%	High School Diploma/GED	4,823	
Public Order	172	3.57%	Yes	2,816	58.39%
Public Safety	71	1.47%	No	2,007	41.61%
Public Trust	306	6.34%	Employed	4,823	
Convicted By	4,823		Yes	1,587	32.90%
Bench	27	0.56%	No	3,236	67.10%
Jury	66	1.37%	Drug Abuse	4,823	
Nolo Contendere	555	11.51%	Yes	3,220	66.76%
Plea	4,112	85.26%	No	1,603	33.24%
Plea Under Advisement	63	1.31%	Alcohol Abuse	4,823	
Sentencing Year	4,823		Yes	1,767	36.64%
2012	792	16.42%	No	3,056	63.36%
2013	788	16.34%	Drug or Alcohol Abuse	4,823	
2014	840	17.42%	Yes	3,401	70.52%
2015	790	16.38%	No	1,422	29.48%
2016	779	16.15%	Mental Health Treatment	4,823	
2017	834	17.29%	Yes	1,552	32.18%
			No	3,271	68.17%

Table 4 offers a detailed breakdown of our dataset’s composition. For example, the most prevalent crime group was controlled substance crimes, accounting for 40.39% of our cases. Approximately 98% of the convictions were the result of a plea (Plea, Plea Under Advisement, or Nolo Contendere), compared to only 2% reached from either a bench or jury trial. Over the six-year period for our data, the number of cases each year is relatively stable, averaging around 800 cases per year. Demographically, our data is nearly 90% male, 58.4% have earned either a high school diploma or GED, and the racial composition of the data is almost equally split between Black or African American (49%) and White (50%) offenders. While 1,767 individuals reported a history of alcohol abuse, nearly twice as many reported having a history of drug abuse (3,220). When combined, there appears to be significant overlap between these two groups, with 3,401 reporting having a history of abusing either alcohol or drugs. Again, it is important to acknowledge that drug and alcohol abuse information is self-reported to the MDOC.

Due to the number of circuit courts in Michigan, the descriptive statistics for circuit courts are presented geographically below, rather than including the information alongside Table 4. Figure 2 shows the percent of offenders who were sentenced to prison after being convicted of a Class D felony and scoring within a straddle cell.

Figure 2: Percent of Convictions Sentenced to Prison by Circuit Court¹¹



¹¹ Figure E2 shows the percent of offenders in each circuit court who were sentenced to prison after being convicted of a Class D felony and scoring within a straddle cell. Habitual offenders and those with a special status during the offense (e.g., HYTA, Probation, Parole) are not included in these comparisons.

As the map indicates, 11 circuit courts sentenced less than 20% of these cases to prison. Twenty-one courts sentenced between 20 and 40% of these offenders to prison. Similarly, 20 courts sentenced between 40 and 60% of cases to prison. Far fewer courts, four, imposed prison sentences between 60 and 80% of the time. Lastly, the 1st circuit court was the only one to sentence greater than 80% of these offenders to prison. The exact percentages and the number of cases for each circuit are presented alongside the results in Table 6 of the next section.

Summarizing data using totals and percentages, as above, is important for gaining a better understanding of the data. However, this type of analysis alone will not allow for comparisons between offenders with similar offense and offender characteristics. Instead, a logistic regression was used to determine whether there are disparities in the in-or-out decision related to additional sentencing factors beyond the guideline scores or the demographic characteristics of the offender. Using this regression technique, we can consider multiple factors at the same time and estimate how each factor is associated with the probability that an offender receives a prison sentence, allowing for more suitable “apple to apple” comparisons. Finally, using this approach we can determine which variables have statistically significant associations with the probability that an offender receives a prison sentence. As used here, a statistically significant result would imply that there are substantial differences in the chance of receiving a prison sentence associated with a given characteristic. Conversely, insignificant results imply that the factor is not meaningfully related to the outcome. A summary of the regression results is provided in the next section, followed by detailed discussion of the significant factors.

V. Results

A. Summary

The second question our analysis considered was: for offenders with similar offense and offender characteristics, are there disparities in the rate of prison sentences? Table 5 provides a simplified summary of our findings regarding sentencing disparities in the in-or-out decision for class D felony offenses. For each variable, the table indicates whether it was significantly related to receiving a prison sentence and the direction of that relationship. With our logistic regression,¹² each of the estimated relationships can be thought of as the expected change in the probability of receiving a prison sentence rather than an intermediate sanction, for that variable holding constant the other variables in the model.

Our analysis found eight factors with statistically significant associations with the probability that someone is sentenced to prison. In the presence of significant differences in sentencing outcomes, we conclude that there are sentencing disparities across these factors: crime group, conviction method (found guilty vs. pled guilty), attorney status (retained vs. appointed), gender, age, employment status, alcohol abuse, and the circuit court where the offender was sentenced. Groups that were less likely to be sentenced to prison included offenders who retained an attorney compared to those with appointed representation, female offenders compared to male offenders, and offenders who were employed. On the other hand, offenders found guilty at trial were associated with higher rates of prison sentences compared to those who pled guilty, as were offenders with a history of alcohol abuse.

¹² For more detail on the model specification and estimates, tables showing the full regression model and output are included in the Appendix.

Table 5: Summary of Logistic Regression Results¹³

Variable	Statistically Significant	Average Relationship to Prison Sentence
Sentence Guideline Crime Group	Yes	Dependent on Comparison Group
<i>Public Trust vs. Person</i>	<i>Yes</i>	Convictions for "Public Trust" crimes were <i>more</i> likely to be sentenced to prison than "Crimes Against a Person."
<i>Cont. Substance vs. Person</i>	<i>Yes</i>	Convictions for "Controlled Substance" crimes were <i>less</i> likely to be sentenced to prison than "Crimes Against a Person."
<i>Public Order vs. Person</i>	<i>Yes</i>	Convictions for "Public Order" crimes were <i>less</i> likely to be sentenced to prison than "Crimes Against a Person."
<i>Property vs. Person</i>	<i>No</i>	<i>Convictions for "Property" crimes did not differ significantly from "Crimes Against a Person."</i>
<i>Public Safety vs. Person</i>	<i>No</i>	<i>Convictions for "Public Safety" crimes did not differ significantly from "Crimes Against a Person."</i>
Conviction Method	Yes	Those found guilty at trial were <i>more</i> likely to receive a prison sentence than those who pled guilty.
Found Guilty vs. Pled Guilty	Yes	Female offenders were <i>less</i> likely to receive a prison sentence than male offenders.
Gender (Female vs. Male)	Yes	Those who retained their attorney were <i>less</i> likely to receive a prison sentence than offenders with appointed attorneys.
Attorney Status (Retained vs. Appointed)	Yes	Employed offenders were <i>less</i> likely to receive a prison sentence than unemployed offenders.
Employed	Yes	Offenders with a self-report history of alcohol abuse were <i>more</i> likely to receive a prison sentence.
Alcohol Abuse	Yes	Up to age 37, the older the offender is, the <i>more</i> likely he or she is to receive a prison sentence. After the peak at age 37, older offenders are <i>less</i> likely to be sentenced to prison.
Age	Yes	Compared to the statewide average: <ul style="list-style-type: none"> • 11 Circuits were <i>more</i> likely • 16 Circuits were <i>less</i> likely • 30 Circuits didn't differ significantly
Circuit Court	Yes	
Offense Group (Assaultive vs. Non-Assaultive)	No	No statistically significant relationship to the "In/Out" of prison sentencing decision.
Race	No	
Ethnicity	No	
High School Diploma/GED	No	
Drug Abuse	No	
Mental Health Treatment	No	

¹³ The sample for these results included individuals sentenced between 2012-2017 and scored within a straddle cell for Class D offenses, excluding habitual offenders and those with a special status during the offense (HYTA, Probation, District Court Probation, Delay of Sentence, Parole, Jail, State Prisoner, Bond, Juvenile Court Supervision, Federal Probation, Federal Parole).

The offense crime group results compare each crime group with those convicted of crimes against a person. As Table 5 shows, individuals convicted of controlled substance and public order crimes were on average less likely to receive prison sentences than those convicted of crimes against a person. Meanwhile, convictions for crimes against public trust were more likely to result in a prison sentence compared to those convicted of crimes against a person.

Using a quadratic relationship to model the offender's age, we found that, on average, the likelihood that an offender is sentenced to prison increases with age up to 37 years old. For offenders over the age of 37, the associated probability of a prison sentence begins to decrease with age.

Lastly, as Table 5 notes, we found statistically significant differences among circuit courts in the probability of being sentenced to prison. However, the results for circuit court cannot be stated in as simple of terms as other factors in Table 5 because the results vary greatly across the 57 circuit courts¹⁴. Instead, we compared how likely each court was to impose a prison sentence to the state average. The results for each circuit court can be grouped into one of three categories: more likely to impose prison sentences, less likely to impose prison sentences, or no significant difference from the state average. The breakdown of circuit courts into these categories as well as the magnitudes of these relationships is presented in the next section, followed by further detailed discussion of the other significant variables.

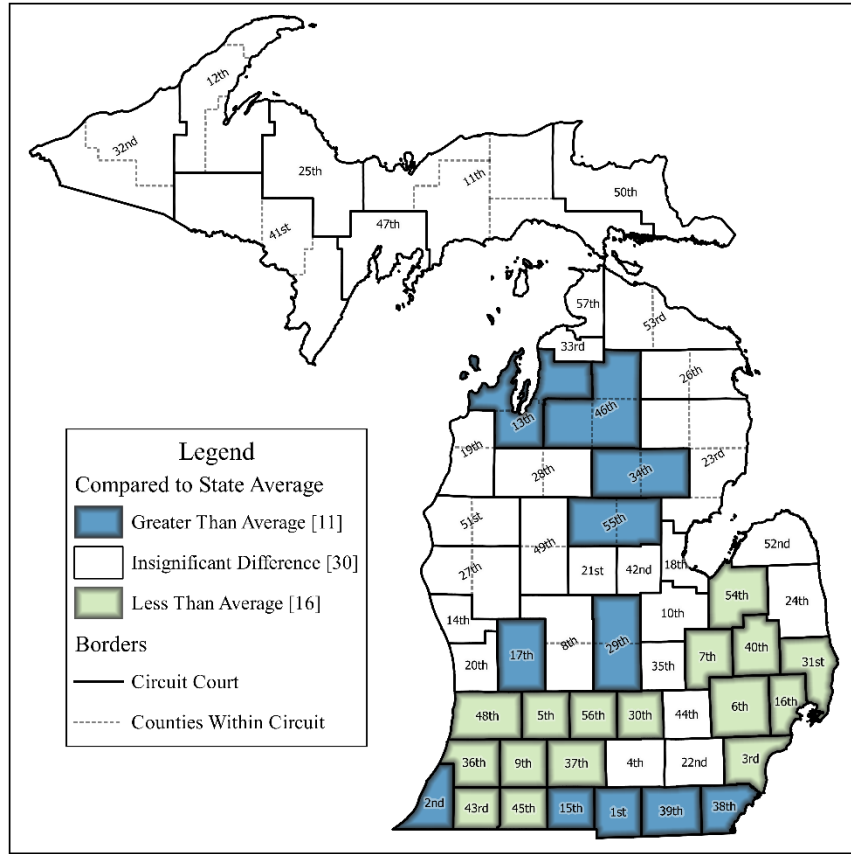
B. Circuit Courts

Unlike the factors with two categories (e.g., attorney status was either appointed or retained), where the results are interpreted as comparing one group with the other, circuit courts require a more sophisticated approach to evaluate the presence of sentencing disparities. First, the average estimated probability of receiving a prison sentence is calculated for each court, taking into consideration the case specifics and offender characteristics outlined above. The average from each court is then compared against the statewide average to determine if that circuit court differs significantly, either above or below, from the rest of the state. The statewide average from our data was 35.8%, meaning that the average probability of being sentenced to prison was 35.8%. This statewide value was calculated by taking the average of all 57 circuit courts, giving equal weight to each court's average. Taking this approach, we found that the probability of being sentenced to prison was statistically greater than the state average in 11 circuit courts and statistically less than average in 16 courts. The remaining 30 courts did not differ significantly from the statewide average.

Figure 3 maps out how each circuit court compares to the 35.8% statewide average. Circuits that are on average less likely to impose prison sentences than the statewide average are shaded green, while blue shaded circuits are more likely to impose prison sentences. Circuits without coloring indicate that the difference between that circuit court and the statewide average was not statistically significant.

¹⁴ Maps of the counties and circuit courts in Michigan are included in the appendix as a reference.

**Figure 3: Probability of Receiving a Prison Sentence
- Comparing Circuit Courts to the State Average -**



In addition to using the simple statewide average, the analysis was conducted again, instead comparing each circuit court to a weighted statewide average¹⁵. Unlike the simple average, where each circuit is represented equally, the weighted average calculation accounts for the number of cases from each court in our dataset, giving more importance to larger courts. The weighted statewide average from our data was 30.3%, meaning that the average probability of being sentenced to prison was 30.3%. When compared with the weighted statewide average, we found that the probability of being sentenced to prison was statistically greater than the state average in 13 circuit courts and statistically less than average in 15 courts. The remaining 29 courts did not differ significantly from the statewide average.

Table 6 combines the percentages shown in Figure 2 with the comparisons illustrated in Figure 3. For each circuit court, the total number of cases, the percent sentenced to prison, and the differences from the unweighted and weighted statewide averages are provided. Differences marked with asterisks are statistically significant, with one, two, or three asterisks denoting 95%, 99%, and 99.9% confidence levels, respectively.

¹⁵ Figure A-3, in the appendix, maps the significant differences between circuit courts and the weighted state average (30.3%).

Table 6: Probability of an Offender Receiving a Prison Sentence by Circuit Court Compared to the State Average (35.8%) and Weighted State Average (30.3%)

Circuit	Number of Cases	Percent Sentenced to Prison	Difference from State Average		Difference from Weighted State Average		Counties
			Estimate	Std. Error	Estimate	Std. Error	
1	35	0.914	0.556***	0.046	0.611***	0.046	Hillsdale
2	206	0.466	0.108**	0.034	0.163***	0.032	Berrien
3	1,149	0.232	-0.126***	0.016	-0.071***	0.011	Wayne
4	71	0.437	0.078	0.055	0.134*	0.054	Jackson
5	25	0.120	-0.238***	0.066	-0.183**	0.066	Barry
6	129	0.264	-0.095*	0.038	-0.039	0.036	Oakland
7	249	0.181	-0.178***	0.026	-0.122***	0.023	Genesee
8	81	0.358	0	0.052	0.055	0.052	Montcalm and Ionia
9	208	0.120	-0.238***	0.024	-0.183***	0.022	Kalamazoo
10	62	0.290	-0.068	0.052	-0.013	0.051	Saginaw
11	18	0.444	0.086	0.095	0.142	0.096	Luce, Mackinac, Schoolcraft, and Alger
12	5	0.200	-0.158	0.180	-0.103	0.183	Houghton, Baraga, and Keweenaw
13	52	0.654	0.295***	0.063	0.351***	0.063	Leelanau, Antrim, and Grand Traverse
14	65	0.385	0.026	0.054	0.082	0.053	Muskegon
15	35	0.571	0.213**	0.080	0.269***	0.081	Branch
16	378	0.296	-0.062**	0.024	-0.007	0.021	Macomb
17	325	0.474	0.115***	0.029	0.171***	0.026	Kent
18	52	0.250	-0.108	0.060	-0.053	0.059	Bay
19	15	0.467	0.108	0.134	0.164	0.135	Benzie and Manistee
20	71	0.268	-0.091	0.054	-0.035	0.054	Ottawa
21	31	0.290	-0.068	0.073	-0.013	0.074	Isabella
22	128	0.336	-0.022	0.040	0.033	0.039	Washtenaw
23	22	0.364	0.005	0.100	0.061	0.100	Iosco, Arenac, Alcona, and Oscoda
24	13	0.231	-0.128	0.103	-0.072	0.104	Sanilac
25	20	0.500	0.142	0.103	0.197	0.104	Marquette
26	33	0.455	0.096	0.088	0.152	0.088	Alpena and Montmorency
27	42	0.357	-0.001	0.072	0.054	0.072	Oceana and Newaygo
28	48	0.479	0.121	0.069	0.176*	0.069	Wexford and Missaukee
29	43	0.535	0.176**	0.068	0.232***	0.068	Gratiot and Clinton
30	115	0.165	-0.193***	0.033	-0.138***	0.032	Ingham
31	104	0.202	-0.157***	0.039	-0.101**	0.038	St. Clair
32	6	0.500	0.142	0.206	0.197	0.209	Ontonagon and Gogebic
33	6	0.500	0.142	0.154	0.197	0.157	Charlevoix
34	26	0.615	0.257**	0.089	0.312***	0.089	Ogemaw and Roscommon
35	17	0.529	0.171	0.110	0.226*	0.111	Shiawassee
36	92	0.141	-0.217***	0.036	-0.162***	0.035	Van Buren
37	92	0.239	-0.119**	0.043	-0.064	0.042	Calhoun
38	59	0.475	0.116*	0.058	0.172**	0.058	Monroe
39	56	0.589	0.231***	0.061	0.286***	0.061	Lenawee
40	27	0.037	-0.321***	0.037	-0.266***	0.036	Lapeer
41	11	0.636	0.278	0.148	0.333*	0.150	Iron, Dickinson, and Menominee
42	12	0.250	-0.108	0.121	-0.053	0.122	Midland
43	67	0.209	-0.149**	0.048	-0.094*	0.048	Cass
44	28	0.286	-0.073	0.072	-0.017	0.072	Livingston
45	99	0.172	-0.187***	0.036	-0.131***	0.035	St. Joseph
46	35	0.514	0.156*	0.072	0.211**	0.072	Otsego, Crawford, and Kalkaska
47	16	0.250	-0.108	0.100	-0.053	0.101	Delta
48	137	0.204	-0.154***	0.033	-0.099**	0.032	Allegan
49	49	0.429	0.07	0.068	0.126	0.068	Osceola and Mecosta
50	21	0.429	0.07	0.104	0.126	0.105	Chippewa
51	14	0.429	0.07	0.117	0.126	0.118	Mason and Lake
52	11	0.182	-0.177	0.117	-0.121	0.119	Huron
53	15	0.267	-0.092	0.124	-0.036	0.125	Cheboygan and Presque Isle
54	35	0.143	-0.216***	0.061	-0.16**	0.061	Tuscola
55	29	0.621	0.262**	0.081	0.318***	0.082	Clare and Gladwin
56	19	0.053	-0.306***	0.046	-0.25***	0.046	Eaton
57	14	0.429	0.07	0.123	0.126	0.125	Emmet

Significance Levels: * p<0.05, ** p<0.01, *** p<0.001

Together, Figure 3 and Table 6 clearly show that the probability of being sentenced to prison varies greatly depending on which circuit court sentences the straddle cell offender. These findings illustrate the correlations between circuit courts and how often prison sentences are imposed on straddle cell offenders. These results do not suggest that this relationship is causal (i.e., being sentenced in a given circuit court makes an offender more likely to go to prison). This distinction is important because correlations allow us to conclude that there are sentencing disparities between circuit courts. However, the underlying mechanism causing some circuit courts to sentence offenders more or less often to prison is not identified. Additional data beyond the scope of this report is needed to determine the true causal relationship. Considering this, we are limited to using summary statistics to explore possible explanations. While this method may not provide the same statistical rigor as our regression analysis, it does allow us to identify factors for subsequent research.

One possible explanation for sentencing disparities between circuit courts is the availability of additional sentencing resources such as community corrections programming and problem-solving courts that divert offenders from prison. In theory, circuit courts where these resources are available may be less likely to impose prison sentences and thus fall into the less-than-state-average category. To explore this, we identified whether community corrections programming was available¹⁶ in each circuit as well as four additional problem-solving courts¹⁷: 1) Drug and Sobriety Courts, 2) Mental Health Courts, 3) Veterans Treatment Courts, and 4) Swift and Sure Sanctions Probation Programs. Table 7 below and Figure 4, on the next page, contrast the prevalence of community programs and problem-solving courts in circuits that were below average, approximately average, and above average for imposing prison sentences. Overall, we found that problem-solving courts and community corrections programming were far more prevalent in the circuit courts that were less likely to sentence offenders to prison. For example, 87.5% (14/16) of the less-than-average circuit courts had at least one problem-solving court, compared to only 27.3% (3/11) of above-average courts. Furthermore, all 16 of the below-average courts had community corrections programs, while only 45.5% (5/11) of the above average courts had programming.

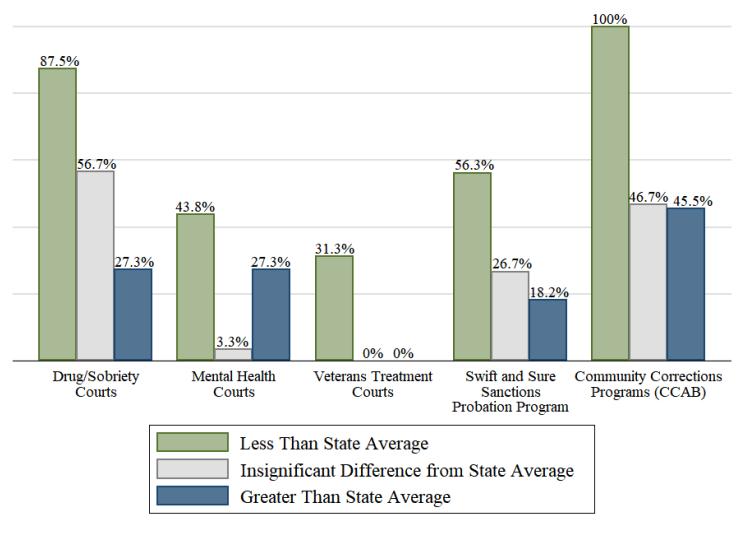
Table 7: Problem-Solving Courts and Community Corrections Programs in Circuit Courts

	Less Than Average		Approximately Average		More Than Average	
	Number	Percent	Number	Percent	Number	Percent
Circuit Courts - Total	16		30		11	
Community Corrections Programs	16	100.0%	14	46.7%	5	45.5%
<u>Problem-Solving Courts (PSC)</u>						
Drug/Sobriety Courts	14	87.5%	17	56.7%	3	27.3%
Mental Health Courts	7	43.8%	1	3.3%	3	27.3%
Swift and Sure Sanctions Program	9	56.3%	8	26.7%	2	18.2%
Veterans Treatment Court	5	31.3%	0	0.0%	0	0.0%
<i>At Least One PSC</i>	14	87.5%	18	60.0%	6	54.5%
<i>More Than One PSC</i>	12	75.0%	8	26.7%	1	9.1%

¹⁶ The presence of community corrections programming was determined using the 2017 funds awarded by the MDOC to Community Correction Advisory Boards (CCABs).

¹⁷ SCAO provides information and requirements for establishing problem-solving courts in their “Guide for Developing a New Problem-Solving Court” available at <https://courts.michigan.gov/Administration/admin/op/problem-solving-courts/Documents/PSC-Guide.pdf>.

Figure 4: Percent of Circuit Courts with Problem-Solving Courts and Community Corrections Programs by Comparison to State Average



While the results from Table 7 are supportive of the underlying theory that circuit courts with alternatives are less likely to impose prison sentences, these findings alone cannot confirm this relationship. Furthermore, from these results we cannot determine whether judges are less likely to use prison because they have alternatives available or whether alternatives are available because judges who would prefer not to use prison are instrumental in promoting problem-solving courts in their circuit court. Ultimately, these findings are an important first step in a secondary analysis of differences among circuit courts. Further research is necessary to confirm these findings and rule out other possible contributing factors.

C. Interpreting Statistically Significant Results¹⁸

Odds and Odds Ratios

Whether an offender is sentenced to prison is a binary outcome. That is, an offender either receives a prison sentence or he or she doesn't. Results from modeling this type of outcome using a logistic regression are often presented using odds ratios to allow for easier interpretation. In this section, we will define odds and odds ratios using examples to help illustrate these concepts.

The odds of an event happening, in our case being sentenced to prison, are defined as the probability of that event occurring divided by the probability that the event doesn't occur. As a simple example, say that the probability of Person A being sentenced to prison is .8 or 80%. That same person has .2 or 20% probability he or she is not sentenced to prison. The odds of being sentenced to prison in this example are $.8/.2 = 4$ or 4 to 1.

An odds ratio is simply the odds for one group divided by the odds for another group. Consider another individual, Person B, who has a 75% chance of being sentenced to prison. The odds of a prison sentence for this person are $.75/.25 = 3$ or 3 to 1. Comparing the odds for Person A (4) with Person B (3), we get an odds ratio of $4/3 = 1.33$. Interpreting this ratio, we can say that the odds of going to prison for Person A are 33% greater than Person B.

¹⁸ A table containing odds ratios and standard errors for our regression coefficients is included in the Appendix A.

Average Marginal Effect (AME)

Throughout the following discussion of results, the average marginal effects (AME) are included alongside the odds ratios. Instead of comparing the odds of receiving a prison sentence for two groups, such as male and female offenders, AMEs compare the average difference in the probability of receiving a prison sentence for two groups. For example, to determine the AME of gender, the estimated probability for each female offender is compared to an otherwise identical male offender. The AME is then calculated by taking the average of all these differences. Table 8 below provides the AME for each of the statistically significant factors.

**Table 8: Logistic Regression Results
Average Marginal Effects of Variables**

Variable	Statistically Significant	Average Marginal Effect (Percentage Points)
Crime Group	Yes	
<i>Public Trust vs. Person</i>	<i>Yes</i>	+19.8
<i>Cont. Substance vs. Person</i>	<i>Yes</i>	-6.9
<i>Public Order vs. Person</i>	<i>Yes</i>	-17.5
<i>Property vs. Person</i>	<i>No</i>	<i>Did not differ significantly</i>
<i>Public Safety vs. Person</i>	<i>No</i>	<i>Did not differ significantly</i>
Conviction Method		
Found Guilty vs Pled Guilty	Yes	+30.6
Gender		
(Female vs Male)	Yes	-9.9
Attorney Status		
(Retained vs Appointed)	Yes	-6.4
Employed	Yes	-5.6
Alcohol Abuse	Yes	+4.6
Offense Group		
(Assaultive vs. Non-Assaultive)	No	
Race	No	No statistically significant relationship to the "In/Out" of prison sentencing decision.
Ethnicity	No	
High School Diploma/GED	No	
Drug Abuse	No	
Mental Health Treatment	No	

D. Crime Group

Our results found significant relationships between the crime group¹⁹ and whether an individual receives a prison sentence. For example, the likelihood of receiving a prison sentence for someone convicted of a controlled substance crime is on average 6.9 percentage points lower than those convicted of a crime against a person. Again, this difference considers or “*controls for*” the sentencing cell (i.e.,

¹⁹All offenses fall within one of six groups defined in the Sentencing Guideline Manual: 1) Crimes against a person (Person), 2) Crimes against property (Property), 3) Crimes involving a controlled substance (CS), 4) Crimes against public order (Pub ord), 5) Crimes against public safety (Pub saf), and 6) Crimes against public trust (Pub Trst). Table A-1 in the appendix lists the three most common felonies within our sample for each crime group.

PRL and OVL), whether the offense was assaultive in nature, the circuit court, and if there was a trial, as well as multiple demographic factors (e.g., gender, race/ethnicity, age, graduated HS/ GED, employment status, drug and alcohol abuse history, and mental health treatment). Similarly, the likelihood of going to prison is 17.5 percentage points less on average for offenders convicted of public order crimes compared to crimes against a person. Lastly, crimes against public trust were on average 19.8 percentage points more likely to be sentenced to prison than similar offenders convicted of crimes against a person.

Which felonies are classified as public trust or public order crimes plays a crucial part in interpreting the results for these less intuitive crime groups. Table A-1 in the appendix provides the three most common crimes in our dataset for each crime group. For crimes against public order the majority of cases were charged with failing to register as a sex offender for either the second -MCL 28.729(1)(b)- or third -MCL 28.729(1)(c)- time. Restating the results above, we found that individuals convicted of failing to register as a sex offender were far less likely to be sentenced to prison than those convicted of crimes against a person (e.g., assault with intent to do great bodily harm).

For public trust crimes, nearly all cases were charged under MCL 333.7413(1) for subsequent controlled substance violations. This felony is one of nine offenses listed in MCL 777.18 that require the commission of an underlying offense to determine the applicable sentencing grid. When charged under MCL 333.7413(1), both the offense variables for public trust crimes and those for controlled substance crimes are scored. Scoring both categories of variables acts as an enhancement for the offender's total offense variable score. Again, returning to the results from Table 8, we found that individuals convicted of subsequent controlled substance violations were far more likely to be sentenced to prison than those convicted of crimes against a person (e.g., assault with intent to do great bodily harm).

E. Conviction Method: Found Guilty vs. Pled Guilty

Individuals convicted by jury or bench trials are, on average, 30.6 percentage points more likely to be sentenced to prison than similarly scored individuals convicted because of a Plea, Plea Under Advisement, or Nolo Contendere plea. Looking at the odds of being sentenced to prison among these two groups, the contrast is even more notable, with the odds for offenders convicted at trial being more than 3.5 times greater (368.47%) than comparable offenders convicted by a plea. Given the magnitude of this difference, in addition to being statistically significant, these results suggest a strong association between going to trial and greater chances of receiving a prison sentence. However, these results should not be interpreted as causal (i.e., going to trial will make you more likely to receive a prison sentence) because there may be additional factors outside our model that provide a plausible explanation, such as plea bargains, for why a large difference exists.

F. Attorney Status: Retained vs. Appointed

For those who retain their attorney, we found a modest and statistically significant decrease in the likelihood of receiving a prison sentence compared to those whose attorney was appointed. Controlling for the offender's cell, crime type, circuit court, and demographic factors, those who retain an attorney are 6.4 percentage points less likely on average to receive a prison sentence than those with appointed attorneys. Expressed in terms of the odds ratio, the odds of being sentenced to prison for those who retain their attorney are 31.6% less than otherwise similar offenders with appointed representation.

G. Gender

When comparing the likelihood of receiving a prison sentence between male and female offenders, we see a statistically and practically significant relationship. On average, female offenders are 9.9 percentage points less likely to receive a prison sentence than male offenders located in the same sentencing cell, controlling for specifics of the offense, the sentencing court, and demographic variables. Interpreting the estimated odds ratio for female, we found the odds of being sentenced to prison for female offenders is 31.5% less than otherwise similar male offenders.

H. Employment Status

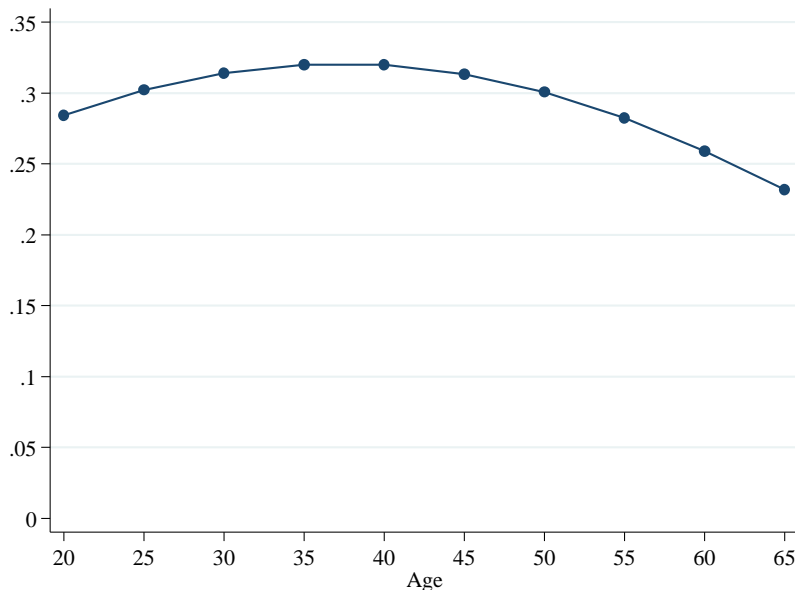
For those who are employed at sentencing, we find a modest and statistically significant decrease in the likelihood of receiving a prison sentence compared to those who were unemployed. Controlling for the offender's cell, crime type, circuit court, and demographic factors, offenders employed at sentencing are 5.6 percentage points less likely on average to receive a prison sentence than unemployed offenders. Expressed in terms of the odds ratio, the odds of being sentenced to prison for employed offenders are 27.7% less than otherwise similar unemployed offenders.

I. Alcohol Abuse

After accounting for the various case specifics and offender demographics, we found a modest and statistically significant relationship between offenders with self-reported alcohol abuse history and higher rates of prison sentences. On average, offenders with a history of alcohol abuse are 4.6 percentage points more likely to receive a prison sentence than comparable offenders without a history of alcohol abuse.

J. Age

Figure 5: Average Probability of Prison Sentence by Age of the Offender



Rather than presenting odds ratios or AMEs for age, Figure 5 demonstrates how the estimated probability of being sentenced to prison varies with the offender's age. Each point on this graph represents the average probability of a prison sentence for offenders of a certain age. For example, the average probability of going to prison for 20-year-old offenders is 28.4% and 32.0% for 35-year-olds. In general, Figure 5 shows the average probability increasing with age up to 37 years old, where the relationship levels out and begins decreasing with age.

K. Race and Ethnicity

Our model incorporates binary variables for the two non-white race categories (i.e., variables equal to 1 if the individual identified as that race and 0 otherwise). Using this structure means each race variable's coefficients can be interpreted as the average difference in the probability of a prison sentence between that race and white offenders. As shown in Table 8, the coefficients on American Indian or Alaskan Native and Black or African American are both statistically insignificant. In this context, statistically insignificant implies that Black or African American and white offenders are on average equally likely to receive a prison sentence after considering their offense, sentencing cell, court, and other demographics. The additional variable indicating Hispanic ethnicity, as described in section IV, is also included. Again, we see that the results are statistically insignificant. This suggests that Hispanic and Non-Hispanic offenders are on average equally likely to receive a prison sentence after considering their offense, sentencing cell, court, and other demographics.

VI. Conclusion

A. Summary

This report addresses two sets of questions regarding sentencing outcomes for non-habitual straddle cell offenders convicted of class D felonies.

Research Question 1: To what extent are prison sentences, relative to intermediate sanctions, imposed on those who score in straddle cells on the **D grid**?

Research Question 2: For offenders with similar offense and offender characteristics, are there disparities in the rate of prison sentences? If so, what factors or characteristics are contributing to such disparities?

Using the MDOC's data on felony sentencing from 2012-2017, we identified 4,823 cases for individuals sentenced between 2012-2017 and scoring within a straddle cell for Class D offenses, excluding habitual offenders and those with a special status during the offense. Of these cases, 1,464 (30.29%) received prison sentences and 2,649 (54.92%) received a jail sentence or a combination of jail and probation. Within the D-grid's straddle cells, the rate of prison sentences ranged from a low of 24.48% of cases (E-I) to a high of 51.16% (A-VI).

The second question our analysis considered was: for offenders with similar offense and offender characteristics, are there disparities in the rate of prison sentences? Our analysis found eight factors with statistically significant associations with the probability that someone is sentenced to prison: offense crime group, conviction method (Trial vs. Plea), attorney status (Retained vs. Appointed), gender, age, employment status, alcohol abuse, and the circuit court where the offender was sentenced.

Our results showed that offenders convicted by a trial were associated with higher rates of prison sentences compared to those who were convicted by plea, as were offenders with a history of alcohol abuse, and those convicted of crimes against public trust. When comparing female with male offenders, our results show that female offenders are on average 9.9 percentage points less likely to be sentenced to prison. Similarly, the probability of being sentenced to prison associated with offenders who retained attorneys was on average 6.4 percentage points less than an otherwise identical offender with appointed

representation. Slightly smaller effects were found when looking at employment status, with employed offenders averaging 5.6 percentage points less likely than comparable unemployed offenders.

Statistically significant differences in the probability of being sentenced to prison were also found when comparing rates among the circuit courts. Each circuit court was categorized as one of three groups: more likely to impose prison sentences, less likely to impose prison sentences, or no significant relationship. Comparing circuit courts to the unweighted state average (35.8%), we identified 11 circuit courts that were statistically above average, 16 courts below the average, and 30 courts that did not differ significantly from the statewide average. Similar results were found when courts were compared to the weighted state average (30.3%).

B. Limitations and Additional Research Considerations

As stated throughout this report, our analysis focused on offenders scoring with a straddle cell for class D felonies and excluded habitual offenders and those with a special status during the offense. Due to the scope of our research, our findings may not be representative of the relationships found in other felony crime classes (i.e., M2, A-C, and E-H). For example, applying our model to the straddle cells in the C-Grid may identify different factors that are significantly related to the “in-or-out” decision. Through continued research on this topic, the CJPC intends to expand the study’s scope to include straddle cells from additional felony classes.

Another possible extension of this analysis would be to apply the same regression techniques to evaluate different metrics for sentencing outcomes. In particular, subsequent iterations of this report could address whether sentencing disparities are found in the length of prison sentence determination. Once again, if disparate outcomes are found, this analysis could be used to identify significant factors and estimate their impact.

Lastly, while this report identifies factors that contribute to the “in-or-out” decision, we are unable to look at how recidivism rates vary between those sentenced to prison and those sentenced to intermediate sanctions. Additional data, such as the release dates, are required to detect when an offender recidivates and to calculate cohort recidivism rates. Fortunately, through conversations with the MDOC, we have identified sources for much of the necessary data and are continuing to work with the department to gather the data.

VII. Appendix – Additional Tables and Maps

Table A-1: Three Most Common Class D Felonies by Crime Group

Table A-2: Logit Regression Coefficients and Odds Ratios

Table A-3: Logit Regression Output with Odds Ratios Reported

Figure A-1: Counties of Michigan

Figure A-2: Circuit Courts of Michigan

Figure A-3: Probability of Receiving a Prison Sentence,
Comparing Circuit Courts to the Weighted State Average

Table A-1: Three Most Common Class D Felonies by Crime Group²⁰

MCL	Number of Cases	Percent of Cases	Description
Crimes Against a Person	1,359	28.2%	
750. 84 (1) (a)	545	40.1%	Assault with intent to do great bodily harm less than murder
750. 357	211	15.5%	Larceny from the person
750. 520 g (1)	207	15.2%	Assault with intent to commit sexual penetration
Crimes Against Property	967	20.1%	
750. 110	773	79.9%	Breaking and entering with intent to commit felony or larceny
750. 535 (2)	30	3.1%	Receiving/concealing stolen property having a value of \$20,000 or more or with priors
750. 74	23	2.4%	Third degree arson
Controlled Substance	1,948	40.4%	
333. 7401 (2) (a) (iv)	1,277	65.6%	Deliver or manufacture of less than 50 grams of certain schedule 1 or 2 controlled substances
333. 7403 (2) (b) (i)	553	28.4%	Possession of methamphetamine or 3, 4-methylenedioxymethamphetamine
333. 7401 c (2) (a)	55	2.8%	Operating or maintaining controlled substance laboratory
Crimes Against Public Order	172	3.6%	
28. 729 (1) (b)	56	32.6%	Failure to register as a sex offender, second offense
28. 729 (1) (c)	48	27.9%	Failure to register as a sex offender, third or subsequent offense
750. 535 a (2)	30	17.4%	Operating a chop shop
Crimes Against Public Safety	71	1.5%	
750.157a (a)	21	29.6%	Conspiracy [333. 7401 (2) (a) (iv) - Deliver or manufacture of less than 50 grams of certain schedule 1 or 2 controlled substances]
750.157a (a)	19	26.8%	Conspiracy [750.110 - Breaking and entering with intent to commit felony or larceny]
750. 234 b (1)	14	19.7%	Discharging firearm at a dwelling or potentially occupied structure
Crimes Against Public Trust	306	6.3%	
333.7413 (1)	219	71.6%	Subsequent controlled substance violations [333. 7401 (2) (a) (iv) - Deliver or manufacture of less than 50 grams of certain schedule 1 or 2 controlled substances]
333.7413 (1)	68	22.2%	Subsequent controlled substance violations [333. 7403 (2) (b) (i) - Possession of methamphetamine or 3, 4-methylenedioxymethamphetamine (MDMA)]
333.7413 (1)	6	2.0%	Subsequent controlled substance violations [333. 7401c (2) (a) - Operating or maintaining controlled substance laboratory]

²⁰ Offenses listed in MCL 777.18 require the commission of an underlying offense. Two such offenses, MCL 750.157a(a) and MCL 333.7413(1), were prevalent in our dataset. MCL 750.157a(a) -conspiracy to commit an offense- is classified as a crime against public safety, and MCL 333.7413(1) -subsequent controlled substance violations- is classified as a crime against public trust. For these felonies, the underlying offense is included within the description column.

Table A-2: Logit Regression Coefficients and Odds Ratios

VARIABLES	(1) Logit Coefficients	(2) Logit Odds Ratio
Sentence Guideline Crime Group		
Property	-0.169 (0.123)	0.845 (0.104)
Controlled Substance	-0.394** (0.155)	0.674** (0.104)
Public Order	-1.156*** (0.262)	0.315*** (0.082)
Public Safety	0.227 (0.304)	1.255 (0.381)
Public Trust	0.978*** (0.204)	2.658*** (0.542)
Group 1 Offense	-0.014 (0.136)	0.986 (0.134)
Conviction Method (Found Guilty vs Pled Guilty)	1.544*** (0.255)	4.685*** (1.196)
Attorney Status (Retained vs Appointed)	-0.379*** (0.092)	0.684*** (0.063)
Gender Female vs Male	-0.617*** (0.127)	0.540*** (0.069)
Race		
American Indian or Alaskan Native	0.296 (0.330)	1.345 (0.443)
Black or African American	-0.087 (0.090)	0.917 (0.082)
Hispanic	0.214 (0.186)	1.239 (0.230)
Age	0.052*** (0.019)	1.054*** (0.020)
Age Squared	-0.001*** (0.000)	0.999*** (0.000)
High School Diploma/GED	-0.103 (0.075)	0.903 (0.067)
Employed	-0.324*** (0.079)	0.723*** (0.057)
History of Drug Abuse	0.079 (0.086)	1.082 (0.093)
History of Alcohol Abuse	0.261*** (0.079)	1.298*** (0.103)
Mental Health Treatment	0.067 (0.079)	1.069 (0.084)
Constant	-1.939*** (0.402)	0.144*** (0.058)

- Output continued on next page -

Fixed Effects Included	Logit	Logit
Cell (PRV, OVL)	<i>Coefficients</i>	<i>Odds Ratio</i>
A, VI	1.500*** (0.244)	4.482*** (1.094)
A, V	0.402* (0.219)	1.495* (0.328)
B, V	0.538* (0.281)	1.712* (0.481)
B, IV	0.092 (0.248)	1.096 (0.272)
C, III	Reference Group	
C, IV	0.466*** (0.181)	1.593*** (0.288)
D, III	0.837*** (0.199)	2.310*** (0.460)
D, II	0.093 (0.164)	1.097 (0.180)
E, II	0.854*** (0.184)	2.348*** (0.433)
E, I	0.101 (0.181)	1.106 (0.200)
F, I	0.663***	1.941***
Year (2012-2017)		
2012	Reference Group	
2013	-0.095 (0.122)	0.909 (0.111)
2014	0.036 (0.117)	1.036 (0.121)
2015	-0.170 (0.120)	0.844 (0.101)
2016	-0.171 (0.123)	0.842 (0.103)
2017	-0.528*** (0.125)	0.590*** (0.074)
Month (Jan. - Dec.)		
January	Reference Group	
February	-0.517*** (0.188)	0.596*** (0.112)
March	0.098 (0.164)	1.103 (0.180)
April	-0.117 (0.172)	0.890 (0.153)
May	-0.146 (0.168)	0.864 (0.145)
June	-0.281* (0.170)	0.755* (0.128)
July	-0.012 (0.170)	0.988 (0.168)
August	0.092 (0.167)	1.096 (0.183)
September	-0.019 (0.168)	0.981 (0.165)
October	0.063 (0.161)	1.065 (0.171)
November	0.213 (0.169)	1.237 (0.209)
December	-0.143 (0.176)	0.867 (0.152)

- Output continued on next page -

Circuit Court	Coefficients	Odds Ratio	Circuit Court	Coefficients	Odds Ratio
1st Circuit Court	3.338*** (0.619)	28.157*** (17.424)	30th Circuit Court	-0.422 (0.263)	0.655 (0.173)
2nd Circuit Court	1.048*** (0.169)	2.851*** (0.481)	31st Circuit Court	-0.244 (0.272)	0.784 (0.213)
3rd Circuit Court	Reference Group		32nd Circuit Court	1.074 (0.924)	2.927 (2.705)
4th Circuit Court	0.921*** (0.260)	2.513*** (0.653)	33rd Circuit Court	0.995 (0.690)	2.706 (1.868)
5th Circuit Court	-0.743 (0.664)	0.476 (0.316)	34th Circuit Court	1.663*** (0.425)	5.275*** (2.241)
6th Circuit Court	0.131 (0.231)	1.140 (0.263)	35th Circuit Court	1.237** (0.496)	3.446** (1.710)
7th Circuit Court	-0.426** (0.190)	0.653** (0.124)	36th Circuit Court	-0.669** (0.318)	0.512** (0.163)
8th Circuit Court	0.725*** (0.267)	2.065*** (0.551)	37th Circuit Court	-0.141 (0.261)	0.868 (0.227)
9th Circuit Court	-0.746*** (0.232)	0.474*** (0.110)	38th Circuit Court	1.462*** (0.290)	4.315*** (1.253)
10th Circuit Court	0.074 (0.293)	1.077 (0.316)	39th Circuit Court	1.583*** (0.304)	4.870*** (1.480)
11th Circuit Court	0.777 (0.474)	2.174 (1.030)	40th Circuit Court	-2.658** (1.052)	0.070** (0.074)
12th Circuit Court	-0.351 (1.199)	0.704 (0.844)	41st Circuit Court	2.033*** (0.704)	7.637*** (5.378)
13th Circuit Court	1.988*** (0.329)	7.298*** (2.401)	42nd Circuit Court	0.313 (0.683)	1.367 (0.933)
14th Circuit Court	0.727*** (0.276)	2.069*** (0.571)	43rd Circuit Court	-0.171 (0.327)	0.843 (0.275)
15th Circuit Court	1.667*** (0.364)	5.297*** (1.929)	44th Circuit Court	-0.001 (0.426)	0.999 (0.426)
16th Circuit Court	-0.143 (0.159)	0.867 (0.138)	45th Circuit Court	-0.471 (0.293)	0.624 (0.183)
17th Circuit Court	1.287*** (0.148)	3.623*** (0.535)	46th Circuit Court	1.307*** (0.369)	3.694*** (1.363)
18th Circuit Court	-0.147 (0.357)	0.863 (0.308)	47th Circuit Court	0.154 (0.583)	1.166 (0.679)
19th Circuit Court	0.986 (0.606)	2.680 (1.625)	48th Circuit Court	-0.533** (0.252)	0.587** (0.148)
20th Circuit Court	0.019 (0.314)	1.019 (0.320)	49th Circuit Court	1.147*** (0.312)	3.149*** (0.983)
21st Circuit Court	0.161 (0.410)	1.175 (0.482)	50th Circuit Court	0.896* (0.477)	2.450* (1.169)
22nd Circuit Court	0.466** (0.211)	1.594** (0.337)	51st Circuit Court	0.327 (0.616)	1.387 (0.854)
23rd Circuit Court	0.676 (0.489)	1.966 (0.960)	52nd Circuit Court	-0.456 (0.867)	0.634 (0.550)
24th Circuit Court	0.204 (0.625)	1.226 (0.766)	53rd Circuit Court	0.079 (0.741)	1.082 (0.802)
25th Circuit Court	1.180** (0.469)	3.256** (1.526)	54th Circuit Court	-0.762 (0.539)	0.467 (0.251)
26th Circuit Court	0.921** (0.399)	2.511** (1.002)	55th Circuit Court	1.821*** (0.394)	6.181*** (2.436)
27th Circuit Court	0.509 (0.374)	1.664 (0.622)	56th Circuit Court	-1.612* (0.943)	0.199* (0.188)
28th Circuit Court	1.234*** (0.325)	3.436*** (1.116)	57th Circuit Court	1.298**	3.661**
29th Circuit Court	1.329*** (0.324)	3.777*** (1.224)			

Table A-3: Logit Regression Output with Odds Ratios Reported

```
. eststo m3_logit, title(Logit):
> logit prison i.(cell disp_month disp_year) i.(retain trial grpl group)
> i.(female race hisp hs employed drug alcohol mental_h) c.age#c.age i.circuit, or r;

note: 2.race != 0 predicts failure perfectly
      2.race dropped and 15 obs not used

note: 4.race != 0 predicts failure perfectly
      4.race dropped and 3 obs not used

Iteration 0:  log pseudolikelihood = -2958.0475
Iteration 1:  log pseudolikelihood = -2541.5272
Iteration 2:  log pseudolikelihood = -2528.3693
Iteration 3:  log pseudolikelihood = -2528.1933
Iteration 4:  log pseudolikelihood = -2528.1924
Iteration 5:  log pseudolikelihood = -2528.1924

Logistic regression              Number of obs   =    4,823
                                Wald chi2(101)   =    684.73
                                Prob > chi2         =    0.0000
                                Pseudo R2          =    0.1453

Log pseudolikelihood = -2528.1924
```

prison	Odds Ratio	Robust Std. Err.	z	P> z	[95% Conf. Interval]	
cell						
A5	1.494998	.3276936	1.83	0.067	.9728885	2.297303
A6	4.481794	1.094316	6.14	0.000	2.777249	7.23251
B4	1.096048	.2721963	0.37	0.712	.6736578	1.783282
B5	1.711947	.4811748	1.91	0.056	.9868344	2.969864
C4	1.593346	.2877566	2.58	0.010	1.118366	2.270054
D2	1.097125	.1802435	0.56	0.573	.7950866	1.513901
D3	2.309529	.4601188	4.20	0.000	1.562938	3.412755
E1	1.106452	.2001805	0.56	0.576	.7761263	1.577368
E2	2.348269	.4330699	4.63	0.000	1.635945	3.370755
F1	1.940681	.3618423	3.56	0.000	1.346625	2.796802
disp_month						
2	.5961785	.1120626	-2.75	0.006	.4124559	.8617378
3	1.102907	.1804928	0.60	0.549	.8002731	1.519986
4	.8898886	.153185	-0.68	0.498	.6350533	1.246985
5	.8639914	.1450845	-0.87	0.384	.6216883	1.200732
6	.7550348	.128307	-1.65	0.098	.5411503	1.053455
7	.9880998	.1681655	-0.07	0.944	.7078384	1.379328
8	1.096084	.1833824	0.55	0.583	.7896449	1.521443
9	.9810089	.1651158	-0.11	0.909	.7053511	1.364396
10	1.064647	.1713585	0.39	0.697	.7766082	1.459518
11	1.236947	.2091959	1.26	0.209	.8879602	1.723093
12	.8666376	.1524602	-0.81	0.416	.6138932	1.223439
disp_year						
2013	.9093187	.1107572	-0.78	0.435	.7162056	1.154501
2014	1.036406	.1209937	0.31	0.759	.8244372	1.302873
2015	.8435419	.1013754	-1.42	0.157	.6665162	1.067585
2016	.8424675	.103276	-1.40	0.162	.6625313	1.071272
2017	.5897914	.0738817	-4.21	0.000	.4613925	.7539217
1.retain	.6844385	.0630395	-4.12	0.000	.5713936	.8198483
1.trial	4.684721	1.195985	6.05	0.000	2.84038	7.726647
1.grpl	.9859034	.1339129	-0.10	0.917	.7554708	1.286622
group						
Property	.8448115	.1039481	-1.37	0.171	.6637821	1.075212
CS	.6743593	.1044992	-2.54	0.011	.497724	.91368
Pub Order	.3147044	.0823719	-4.42	0.000	.188411	.5256534
Pub Safety	1.255112	.3812688	0.75	0.454	.6920073	2.27643
Pub Trust	2.657873	.5418771	4.79	0.000	1.782356	3.963455
1.female	.5397633	.0687774	-4.84	0.000	.4204768	.6928905
race						
American Indian or Alaskan Native	1.344769	.4434903	0.90	0.369	.7045806	2.566639
Asian	1	(empty)				
Black or African American	.9167246	.0822502	-0.97	0.333	.7688958	1.092975
Native Hawaiian or Other Pacific	1	(empty)				
1.hisp	1.238762	.2304667	1.15	0.250	.8602509	1.783818
1.hs	.9025	.06735	-1.37	0.169	.7796962	1.044646
1.employed	.7234645	.0571439	-4.10	0.000	.6197034	.8445991
1.drug	1.082314	.0928704	0.92	0.357	.9147749	1.280539
1.alcohol	1.298215	.1031928	3.28	0.001	1.110929	1.517076
1.mental_h	1.069425	.0842367	0.85	0.394	.9164371	1.247952
age	1.053842	.019664	2.81	0.005	1.015997	1.093096
c.age#c.age	.9992971	.0002331	-3.01	0.003	.9988402	.9997541

- Output continued on next page -

circuit							
1	28.1571	17.42383	5.39	0.000	8.37255	94.69301	
2	2.851035	.4813946	6.20	0.000	2.047755	3.969421	
4	2.512666	.6529177	3.55	0.000	1.509905	4.181383	
5	.4757818	.3159516	-1.12	0.263	.1294649	1.748492	
6	1.140089	.2633393	0.57	0.570	.7249822	1.792877	
7	.6533754	.1242858	-2.24	0.025	.450035	.9485915	
8	2.064583	.5513717	2.71	0.007	1.223232	3.484624	
9	.4744524	-.1101241	-3.21	0.001	.3010386	.7477616	
10	1.076516	.3159426	0.25	0.802	.6056262	1.913535	
11	2.1739	1.03012	1.64	0.101	.8587975	5.502859	
12	.7040945	.8439114	-0.29	0.770	.0672048	7.376689	
13	7.297662	2.401168	6.04	0.000	3.829224	13.90775	
14	2.068576	.5714346	2.63	0.009	1.203735	3.554774	
15	5.296944	1.929366	4.58	0.000	2.594076	10.81604	
16	.8669769	.1380859	-0.90	0.370	.6345038	1.184625	
17	3.623265	.5354355	8.71	0.000	2.71214	4.840477	
18	.8629096	.3076665	-0.41	0.679	.4290158	1.735631	
19	2.67956	1.624978	1.63	0.104	.816329	8.795524	
20	1.019468	.3201022	0.06	0.951	.5509409	1.886435	
21	1.174957	.4815803	0.39	0.694	.5261866	2.623641	
22	1.594144	.3365022	2.21	0.027	1.054024	2.411042	
23	1.965867	.9604644	1.38	0.167	.7545399	5.12184	
24	1.225857	.7662582	0.33	0.745	.3600566	4.173578	
25	3.255548	1.526058	2.52	0.012	1.299026	8.158872	
26	2.510973	1.001776	2.31	0.021	1.148808	5.488285	
27	1.664121	.6217894	1.36	0.173	.8000893	3.461239	
28	3.435807	1.116469	3.80	0.000	1.817314	6.495726	
29	3.776887	1.224179	4.10	0.000	2.000964	7.129003	
30	.6554203	.1726812	-1.60	0.109	.3910722	1.098456	
31	.7835032	.2132831	-0.90	0.370	.4595461	1.335834	
32	2.92681	2.704944	1.16	0.245	.4783194	17.90898	
33	2.705741	1.868086	1.44	0.149	.6992031	10.47054	
34	5.274603	2.241135	3.91	0.000	2.29362	12.12993	
35	3.445528	1.710475	2.49	0.013	1.30224	9.11634	
36	.5121804	.1631059	-2.10	0.036	.2743812	.9560739	
37	.8682497	.2267555	-0.54	0.589	.5204051	1.448598	
38	4.315285	1.252802	5.04	0.000	2.442818	7.623036	
39	4.87016	1.479957	5.21	0.000	2.684589	8.835042	
40	.0700744	.0737196	-2.53	0.012	.0089141	.5508586	
41	7.63697	5.378455	2.89	0.004	1.920654	30.36638	
42	1.367213	.9334616	0.46	0.647	.3586576	5.211853	
43	.8428736	.2753818	-0.52	0.601	.444283	1.599061	
44	.999164	.4256322	-0.00	0.998	.4335456	2.302707	
45	.6244836	.1828833	-1.61	0.108	.3517566	1.108664	
46	3.694082	1.362715	3.54	0.000	1.792692	7.612151	
47	1.166138	.6794973	0.26	0.792	.3721887	3.653733	
48	.5866837	.1480143	-2.11	0.035	.3578118	.9619521	
49	3.148559	.9834851	3.67	0.000	1.706987	5.807557	
50	2.450464	1.168535	1.88	0.060	.9623695	6.23957	
51	1.386998	.8539974	0.53	0.595	.414932	4.636333	
52	.6340644	.5496019	-0.53	0.599	.1159628	3.466954	
53	1.082109	.8015949	0.11	0.915	.2533526	4.621856	
54	.4665628	.2512461	-1.42	0.157	.1623807	1.340559	
55	6.180501	2.436285	4.62	0.000	2.854233	13.38314	
56	.1994212	.1880303	-1.71	0.087	.0314188	1.265763	
57	3.66149	2.147784	2.21	0.027	1.159722	11.56011	
_cons	.1438915	.0578997	-4.82	0.000	.065392	.3166253	

Table A-4: Problem-Solving Courts & Community Corrections Programs
by Circuit Court

Circuit	Percent Sentenced to Prison	Compared to State Average	CCAB Funding	Drug / Sobriety Courts	Mental Health Courts	Swift & Sure Sanctions Parole	Veterans Treatment Court	Counties within Circuit
1	91.4%	Above State Average	No	Yes	No	No	No	Hillsdale
2	46.6%	Above State Average	Yes	Yes	Yes	Yes	No	Berrien
3	23.2%	Below State Average	Yes	Yes	Yes	Yes	Yes	Wayne
4	43.7%	Insignificant Difference	Yes	Yes	No	No	No	Jackson
5	12.0%	Below State Average	Yes	Yes	No	Yes	No	Barry
6	26.4%	Below State Average	Yes	Yes	Yes	No	No	Oakland
7	18.1%	Below State Average	Yes	Yes	Yes	No	Yes	Genesee
8	35.8%	Insignificant Difference	Yes	Yes	No	No	No	Montcalm and Ionia
9	12.0%	Below State Average	Yes	Yes	Yes	Yes	Yes	Kalamazoo
10	29.0%	Insignificant Difference	Yes	Yes	No	Yes	No	Saginaw
11	44.4%	Insignificant Difference	No	No	No	No	No	Luce, Mackinac, Schoolcraft, and Alger
12	20.0%	Insignificant Difference	No	No	No	No	No	Houghton, Baraga, and Keweenaw
13	65.4%	Above State Average	Yes	No	Yes	No	No	Leelanau, Antrim, and Grand Traverse
14	38.5%	Insignificant Difference	Yes	No	Yes	Yes	No	Muskegon
15	57.1%	Above State Average	No	No	No	No	No	Branch
16	29.6%	Below State Average	Yes	Yes	Yes	No	Yes	Macomb
17	47.4%	Above State Average	Yes	No	Yes	No	No	Kent
18	25.0%	Insignificant Difference	Yes	Yes	No	Yes	No	Bay
19	46.7%	Insignificant Difference	No	No	No	No	No	Benzie and Manistee
20	26.8%	Insignificant Difference	Yes	Yes	No	No	No	Ottawa
21	29.0%	Insignificant Difference	Yes	Yes	No	Yes	No	Isabella
22	33.6%	Insignificant Difference	Yes	Yes	No	No	No	Washtenaw
23	36.4%	Insignificant Difference	Yes	Yes	No	No	No	Iosco, Arenac, Alcona, and Oscoda
24	23.1%	Insignificant Difference	No	No	No	No	No	Sanilac
25	50.0%	Insignificant Difference	Yes	Yes	No	No	No	Marquette
26	45.5%	Insignificant Difference	No	No	No	No	No	Alpena and Montmorency
27	35.7%	Insignificant Difference	No	No	No	No	No	Oceana and Newaygo
28	47.9%	Insignificant Difference	Yes	No	No	No	No	Wexford and Missaukee
29	53.5%	Above State Average	No	No	No	Yes	No	Gratiot and Clinton
30	16.5%	Below State Average	Yes	Yes	Yes	Yes	No	Ingham
31	20.2%	Below State Average	Yes	No	No	No	No	St. Clair
32	50.0%	Insignificant Difference	No	No	No	No	No	Ontonagon and Gogebic
33	50.0%	Insignificant Difference	No	Yes	No	No	No	Charlevoix
34	61.5%	Above State Average	Yes	No	No	No	No	Ogemaw and Roscommon
35	52.9%	Insignificant Difference	No	Yes	No	No	No	Shiawassee
36	14.1%	Below State Average	Yes	Yes	Yes	Yes	No	Van Buren
37	23.9%	Below State Average	Yes	Yes	No	No	No	Calhoun
38	47.5%	Above State Average	Yes	No	No	No	No	Monroe
39	58.9%	Above State Average	No	Yes	No	No	No	Lenawee
40	3.7%	Below State Average	Yes	No	No	No	No	Lapeer
41	63.6%	Insignificant Difference	No	Yes	No	Yes	No	Iron, Dickinson, and Menominee
42	25.0%	Insignificant Difference	Yes	Yes	No	Yes	No	Midland
43	20.9%	Below State Average	Yes	Yes	No	Yes	No	Cass
44	28.6%	Insignificant Difference	Yes	Yes	No	Yes	No	Livingston
45	17.2%	Below State Average	Yes	Yes	No	Yes	No	St. Joseph
46	51.4%	Above State Average	No	No	No	No	No	Otsego, Crawford, and Kalkaska
47	25.0%	Insignificant Difference	No	No	No	No	No	Delta
48	20.4%	Below State Average	Yes	Yes	No	Yes	No	Allegan
49	42.9%	Insignificant Difference	No	No	No	No	No	Osceola and Mecosta
50	42.9%	Insignificant Difference	No	Yes	No	No	No	Chippewa
51	42.9%	Insignificant Difference	No	No	No	No	No	Mason and Lake
52	18.2%	Insignificant Difference	No	No	No	No	No	Huron
53	26.7%	Insignificant Difference	No	Yes	No	No	No	Cheboygan and Presque Isle
54	14.3%	Below State Average	Yes	Yes	No	No	No	Tuscola
55	62.1%	Above State Average	No	No	No	No	No	Clare and Gladwin
56	5.3%	Below State Average	Yes	Yes	No	Yes	Yes	Eaton
57	42.9%	Insignificant Difference	Yes	Yes	No	Yes	No	Emmet

Figure A-1: Counties of Michigan

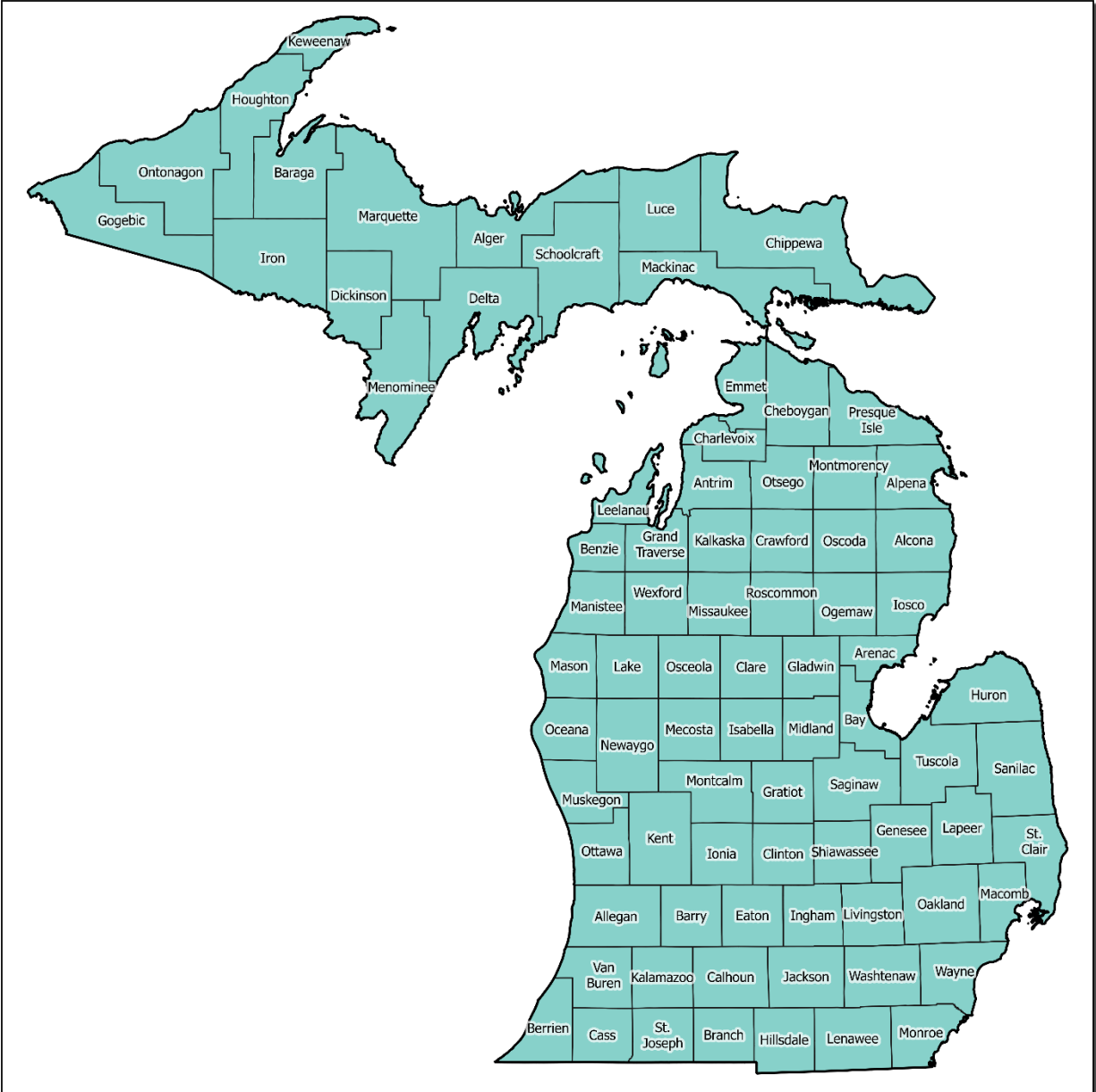


Figure A-2: Circuit Courts of Michigan

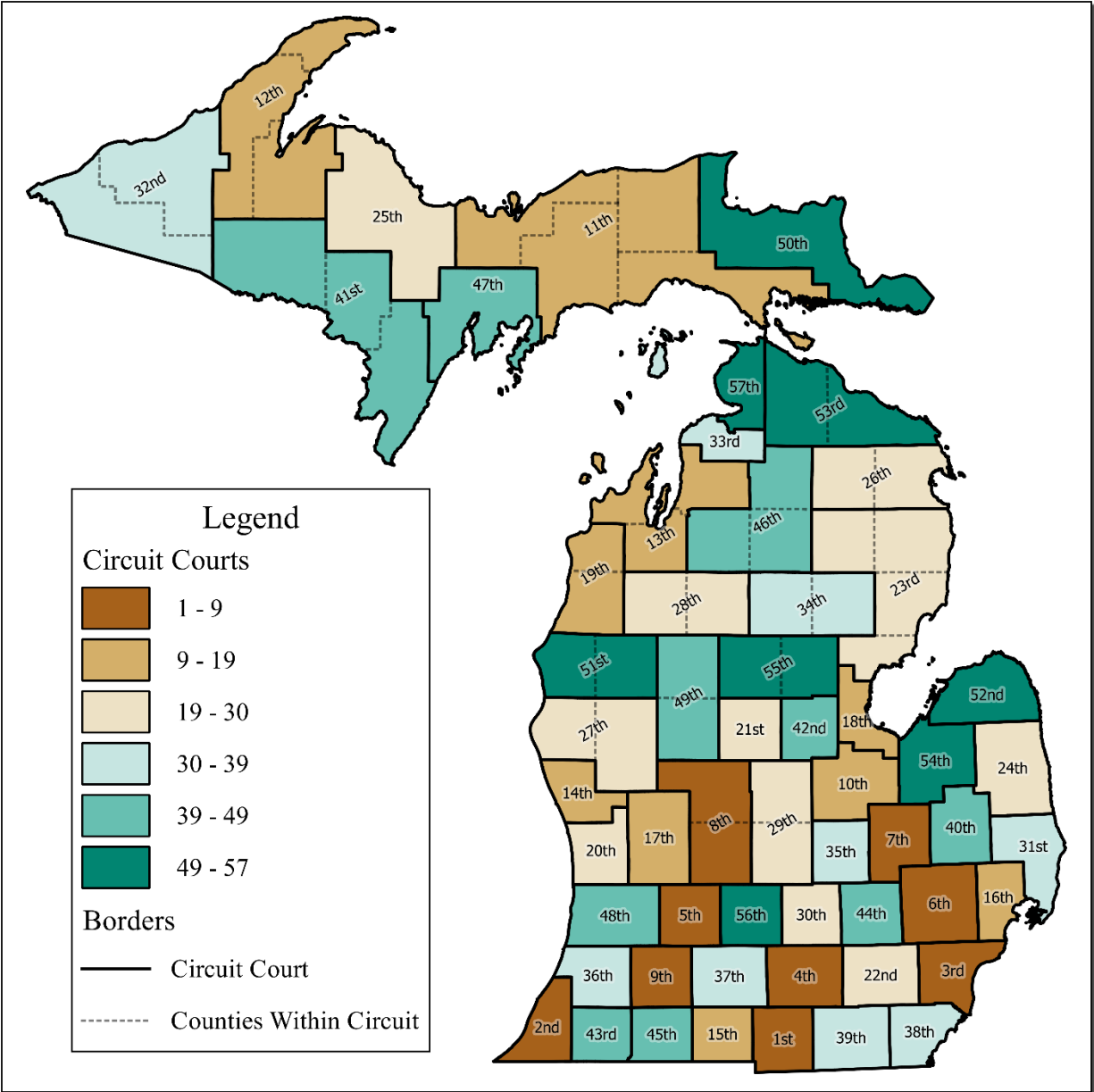
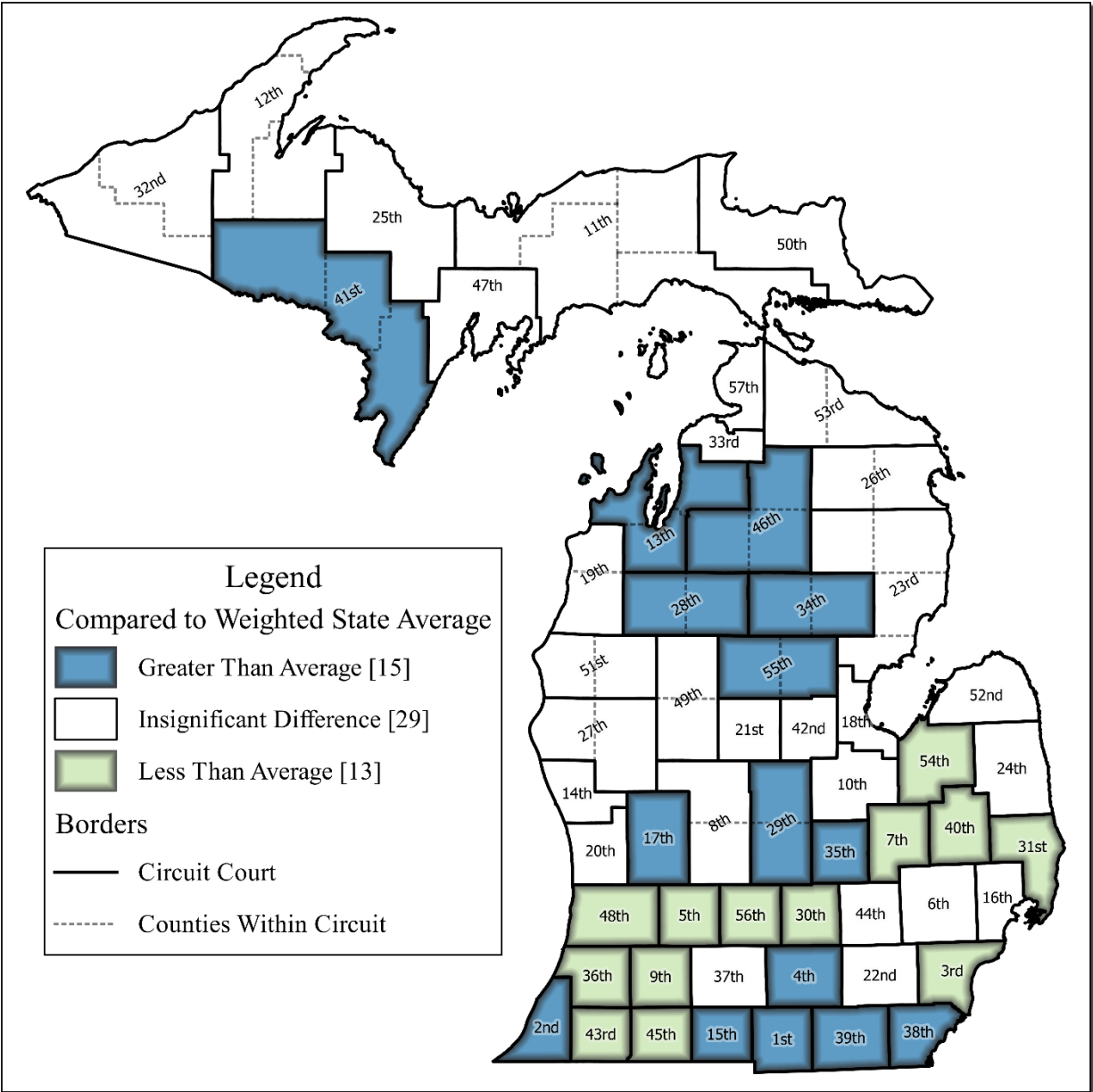


Figure A-3: Probability of a Prison Sentence
 Comparing Circuit Courts with Weighted State Average²¹



²¹ Figure A-3 shows how each circuit court compares to the weighted statewide average for imposing prison sentences on offenders convicted of Class D felonies and scoring within a straddle cell. Habitual offenders and those with a special status during the offense (e.g., HYTA, Probation, Parole) are not included in these comparisons.